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OF THE

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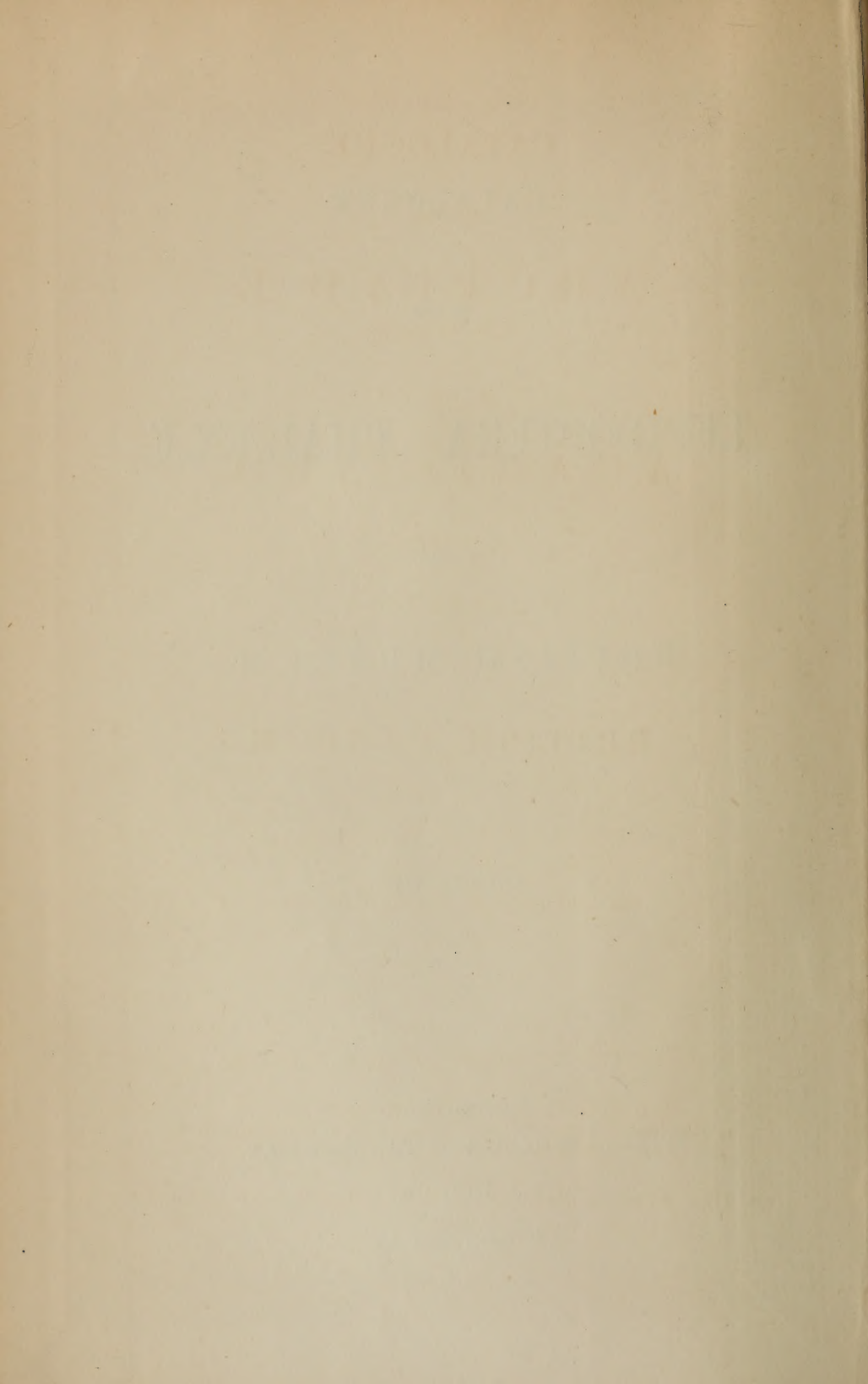
VOLUME III.

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1901.

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CATALOGUE

OF THE

A R C T I A D Æ

(ARCTIANÆ)

AND

A G A R I S T I D Æ

IN THE

COLLECTION

OF THE

BRITISH MUSEUM.

BY

SIR GEORGE F. HAMPSON, BART.

LONDON:

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P R E F A C E.

THE subject of the 3rd volume of the Catalogue of *Lepidoptera Phalaenæ* is the last of the three subfamilies of the *Arctiadae*—the *Arctiæ*, in which 946 species are described and classified; the Volume also contains the small family *Agaristidae*, with 225 species, a somewhat specialized development from the *Noctuidæ*, the antennæ being modified in relation to their day-flying habits.

Since the death of Dr. Staudinger his collection has not been available for study, and it has not been possible to examine a few of the Palæarctic and Neotropical types of *Arctiæ* which he had kindly promised to send to London, as he had so liberally done on former occasions; nearly the whole of them had, however, already been examined and, as will be seen by the list on pp. 513, 514, but few remain the classification of which is uncertain.

I have again to thank all those who had assisted Sir George Hampson in the preparation of the former volumes, for their help with this one; also M. Ch. Oberthür of Rennes, Herr G. Weymer of Elberfeld, and Dr. Carlos Berg of Buenos Ayres, for the loan of types described by them.

E. RAY LANKESTER,
Director.

British Museum (Natural History),
June 20th, 1901.

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CATALOGUE

OF

LEPIDOPTERA PHALÆNÆ.

Subfamily ARCTIANÆ.

Proboscis more or less aborted in the typical genera *Arctia*, *Diacrisia*, and allies, fully developed in most Neotropical genera, and also in *Utetheisa*, *Secusio*, and their allies; palpi slight and porrect or well developed and upturned; ocelli present; eyes rarely hairy; antennæ pectinate or ciliate; tibial spurs typically small but often well developed, the hind tibiæ with the medial spurs absent in a few genera and the fore tibiæ in others with curved apical claw, the mid and hind tibiæ rarely spined. Wings usually well developed, sometimes aborted in the females of *Ocnogyna* etc. Fore wing with vein 1 *a* separate from 1 *b*; 5 from near lower angle of cell or well below angle of discocellulars; 6 from or from near upper angle, except in the very abnormal genus *Psycharium*, where it is from near middle of discocellulars in both wings; areole present in many genera. Hind wing with vein 1 *a* present; 1 *c* absent; 4 often absent; 5 from near lower angle of cell or well below angle of discocellulars; 6, 7 sometimes coincident; 8 coincident with the cell from or almost from base to near middle, extremity, or in *Automolis* and some other forms sometimes to beyond angle of cell; in *Thalesa*, *Carathis*, *Ochrodota*, and some species of *Melese* and *Halisidota* obsolete.

The species of *Automolis* etc. which have veins 6, 7 of hind wing coincident and vein 8 from or from beyond upper angle of cell can be distinguished from the *Syntomidæ* by the stalk of the coincident veins 6, 7 being slightly curved towards the costa at base.

The Agaristid genus *Pseudospiris* and some genera of *Noctuidæ* have acquired the Arctid character of vein 8 of the hind wing becoming coincident with the cell to near middle, but in these it

appears to be always free at the base, this being rarely the case in the Arctids; this occurs in various parts of the *Noctuidæ*, such as *Stilbia* in the *Caradrininae*, *Rhanidophora*, and *Eligma* in the *Noctuinae*; several genera in the *Tarache* group, all the genera of *Sarrothripinae*, several of the allies of *Acontia* (these last two having also the Arctid character of a bar-shaped retinaculum), and many genera in the *Hypeninae*.

The nearest allies of the *Arctiadae* among the *Noctuidæ* seem to be the *Sarrothripinae* and *Acontianæ*, the former being collaterals of the *Lithosianæ*, the latter of the *Arctianæ*.

Larvæ with all the prolegs present; the tubercles normal, converted into large warts bearing many hairs and forming a cocoon of silk interwoven with hair.

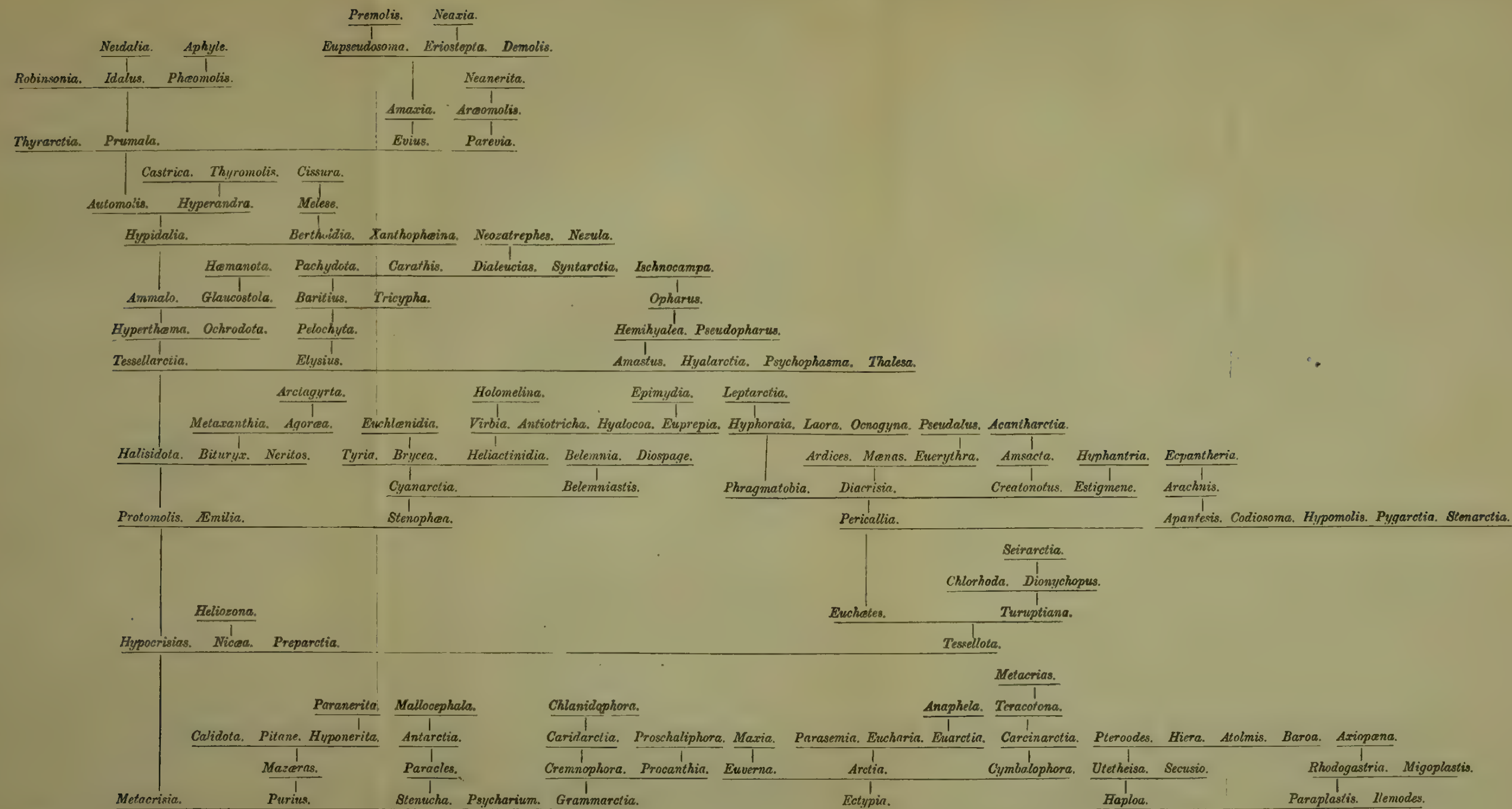
In the abnormal *Tyria jacobææ* the warts have only one hair, except v which has two hairs and vii with four, this reduction of the hair being correlated with its warning coloration.

Key to the Genera.

- A. Hind wing with vein 4 absent.
 - a. Fore wing with vein 10 stalked with 7, 8, 9.
 - a¹. Fore wing with vein 9 absent.
 - a². Palpi rostriform, downcurved HOLOMELINA, p. 188.
 - b². Palpi short, not reaching beyond the frons.
 - a³. Hind tibiæ with the medial spurs absent ... EPIMYDIA, p. 203.
 - b³. Hind tibiæ with the medial spurs present... EUPREPIA, p. 203.
 - b¹. Fore wing with vein 9 present.
 - a². Fore wing with veins 3, 4 stalked..... NEONERITA, p. 37.
 - b². Fore wing with vein 3 from angle of cell.
 - a³. Hind wing with veins 6, 7 coincident.
 - a⁴. Fore wing with vein 11 stalked with 7, 8, 9, 10; palpi porrect PSEUDALUS, p. 253.
 - b⁴. Fore wing with vein 11 from cell; palpi upturned.
 - a⁵. Palpi reaching vertex of head; hind wing with the costa lobed..... PREMOLIS, p. 26.
 - b⁵. Palpi reaching middle of frons; hind wing with the costa evenly curved EUPSEUDOSOMA, p. 27.
 - b³. Hind wing with vein 8 stalked with 6, 7 ... DEMOLIS, p. 31.
 - c³. Hind wing with veins 6, 7 stalked, 8 from cell.
 - a⁴. Fore wing with vein 7 from 8 beyond 9 ... VIRBIA, p. 197.
 - b⁴. Fore wing with vein 7 from 8 before 9 APHYLE, p. 19.
 - d³. Hind wing with veins 6, 7 from cell THYROMOLIS, p. 68.
 - c². Fore wing with vein 3 from before angle of cell.
 - a³. Hind wing with veins 3, 5 stalked or coincident.
 - a⁴. Fore wing with vein 10 from 8, 9 beyond 7.
 - a⁵. Hind wing with veins 3, 5 and 6, 7 coincident.
 - a⁶. Hind wing with vein 2 stalked with 5 ... NEAXIA, p. 30.
 - b⁶. Hind wing with vein 2 from cell ERIOSTEPTA, p. 30.
 - b⁵. Hind wing with veins 3, 5 and 6, 7 stalked.
 - a⁶. Palpi upturned, reaching vertex of head. ARÆOMOLIS, p. 38.

PHYLOGENY OF THE ARCTIANÆ.

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- b*⁶. Palpi upturned, not reaching vertex of head..... PHEOMOLIS, p. 20.
*c*⁶. Palpi short, oblique.
*a*⁷. Fore wing with vein 5 from angle of cell..... ROBINSONIA, p. 10.
*b*⁷. Fore wing with vein 5 from well above angle of cell CASTRICA, p. 67.
*b*⁴. Fore wing with vein 10 from 8, 9 before 7.
*a*⁵. Hind wing with veins 6, 7 coincident.
*a*⁶. Hind wing with vein 2 from close to angle of cell AMAXIA, p. 32.
*b*⁶. Hind wing with vein 2 from well before angle of cell..... EVIUS, p. 36.
*b*⁵. Hind wing with veins 6, 7 strongly stalked. PAREVIA, p. 38.
*c*⁵. Hind wing with veins 6, 7 from angle of cell..... HYPERANDRA, p. 69.
*b*³. Hind wing with veins 3 and 5 from cell.
*a*⁴. Fore wing with vein 10 from 8, 9 beyond 7.
*a*⁵. Hind wing with veins 6, 7 coincident.
*a*⁶. Fore wing with vein 11 stalked with 7, 8, 9, 10..... NEIDALIA, p. 13.
*b*⁶. Fore wing with vein 11 from the cell ... IDALUS, p. 14.
*b*⁵. Hind wing with veins 6, 7 stalked PRUMALA, p. 21.
*b*⁴. Fore wing with vein 10 from 8, 9 before 7.
*a*⁵. Thorax with sharp triangular dorsal crest. THYRARCTIA, p. 9.
*b*⁵. Thorax without dorsal crest.
*a*⁶. Hind wing with veins 6, 7 stalked or coincident AUTOMOLIS, p. 39.
*b*⁶. Hind wing with veins 6, 7 from angle of cell.
*a*⁷. Hind wing with vein 8 from close to angle of cell HYPIDALIA, p. 70.
*b*⁷. Hind wing with vein 8 from middle of cell..... BELEMNIA, p. 207.
b. Fore wing with vein 10 not stalked with 7, 8, 9.
*a*¹. Fore wing with vein 9 stalked with 7, 8.
*a*². Hind wing with veins 3 and 5 stalked.
*a*³. Hind tibiæ with the medial spurs absent ... NEZULA, p. 97.
*b*³. Hind tibiæ with the medial spurs present ... NERITOS, p. 177.
*b*². Hind wing with veins 3 and 5 from cell.
*a*³. Fore wing with veins 10, 11 stalked.
*a*⁴. Fore wing with the lower part of cell short, the upper part produced NEOZATREPES, p. 96.
*b*⁴. Fore wing with the cell normal..... DIALEUCIAS, p. 97.
*b*³. Fore wing with veins 10, 11 from cell.
*a*⁴. Palpi upturned.
*a*⁵. Hind wing with vein 8 aborted THALESIA, p. 145.
*b*⁵. Hind wing with vein 8 fully developed.
*a*⁶. Hind wing with veins 6, 7 stalked HÆMANOTA, p. 87.
*b*⁶. Hind wing with veins 6, 7 from cell.
*a*⁷. Fore wing with vein 3 from angle of cell..... GLAUCOSTOLA, p. 87.
*b*⁷. Fore wing with vein 3 from well before angle of cell PSEUDOPHARUS, p. 133.
*b*⁴. Palpi correct HYPOMOLIS, p. 414.
*b*¹. Fore wing with vein 9 from 10 anastomosing with 8 to form the areole.
*a*². Fore wing with veins 9, 10 arising from 11 ... PARANERITA, p. 439.
*b*². Fore wing with vein 11 free HYPONERITA, p. 440.

- B. Hind wing with vein 4 present.**
- a.* Hind wing with veins 6, 7 coincident.
 - a*¹. Fore wing with veins 4, 5 stalked CISSURA, p. 70.
 - b*¹. Fore wing with veins 4, 5 from cell.
 - a*². Hind wing with vein 8 stalked with 7, rarely obsolete.
 - a*³. Proboscis aborted, minute EUERYTHRA, p. 254.
 - b*³. Proboscis fully developed MELESE, p. 72.
 - b*². Hind wing with vein 8 from the cell BERTHOLDIA, p. 78.
 - b.* Hind wing with veins 6, 7 not coincident.
 - a*¹. Fore wing with vein 11 stalked with 10.
 - a*². Fore wing with veins 10, 11 stalked from 7, 8, 9 SYNTARCTIA, p. 98.
 - b*². Fore wing with veins 10, 11 stalked from cell.
 - a*³. Hind wing with vein 8 absent CARATHIS, p. 95.
 - b*³. Hind wing with vein 8 present.
 - a*⁴. Fore wing with vein 6 from upper angle of cell or stalked with 7, 8, 9 PACHYDOTA, p. 92.
 - b*⁴. Fore wing with vein 6 from below angle of cell BARITIUS, p. 99.
 - c*². Fore wing with vein 10 from 11 anastomosing with 7, 8, 9 to form the areole TYRIA, p. 185.
 - b*¹. Fore wing with vein 11 from the cell.
 - a*². Both wings with vein 6 from or from close to angle of cell.
 - a*³. Fore wing with veins 7 and 10 stalked; 8, 9 absent ARCTAGYRTA, p. 173.
 - **b*³. Fore wing with veins 7, 8, 9, 10 stalked.
 - a*⁴. Proboscis more or less aborted.
 - a*⁵. Hind tibiæ with the medial spurs absent.
 - a*⁶. Fore tibiæ with curved apical claw.
 - a*⁷. Head with corneous process on vertex . ACANTHARCTIA, p. 321.
 - b*⁷. Head without corneous process on vertex.
 - a*⁸. Head and thorax clothed with rough hair.
 - a*⁹. Eyes small OCNOGYNA, p. 225.
 - b*⁹. Eyes large HYPHANTRIA, p. 335.
 - b*⁸. Head and thorax smoothly scaled AMSACTA, p. 322.
 - b*⁶. Fore tibiæ without apical claw.
 - a*⁷. Eyes hairy LEPTARCTIA, p. 220.
 - b*⁷. Eyes smooth.
 - a*⁸. Head and thorax clothed with rough woolly hair MENAS, p. 247.
 - b*⁸. Head and thorax smoothly scaled.
 - a*⁹. Fore wing narrow; abdomen smoothly scaled at base CREATONOTUS, p. 331.
 - b*⁹. Fore wing broad; abdomen with some rough hair at base of dorsum . ECPANTHERIA, p. 365.
 - b*⁵. Hind tibiæ with the medial spurs present.
 - a*⁶. Fore tibiæ with curved apical claw ESTIGMENE, p. 338.
 - b*⁶. Fore tibiæ without apical claw.
 - a*⁷. Eyes hairy.
 - a*⁸. Eyes small HYPHORAIA, p. 222.
 - b*⁸. Eyes large ARDICES, p. 245.
 - b*⁷. Eyes smooth.
 - a*⁸. Thorax clothed with rough woolly hair.
 - a*⁹. Eyes small.
 - a*¹⁰. Thorax and abdomen clothed with very long hair LAORA, p. 225.

* In the male of *Tricypha* vein 10 is from the cell.

- b*¹⁰. Thorax and abdomen more smoothly scaled..... PHRAGMATOBIA, p. 233.
*b*⁹. Eyes large DIACRISIA, p. 256.
*b*⁸. Thorax smoothly scaled.
*a*⁹. Hind wing with veins 6, 7 stalked ... HYALOCOIA, p. 202.
*b*⁹. Hind wing with veins 6, 7 from cell.
*a*¹⁰. Abdomen clothed with rough hair on base of dorsum ARACHNIS, p. 389.
*b*¹⁰. Abdomen with the dorsum smoothly scaled except 1st segment PERICALLIA, p. 350.
*b*⁴. Proboscis fully developed.
*a*⁵. Hind wing with veins 4, 5 stalked.
*b*⁶. Mid and hind tibiæ spined..... DIOSPAGE, p. 211.
*b*⁶. Mid and hind tibiæ not spined.
*a*⁷. Fore wing with vein 6 stalked with 7, 8, 9, 10 PSYCHOPHASMA, p. 144.
*b*⁷. Fore wing with vein 6 from the cell ... TRICYPHA, p. 102.
*b*⁵. Hind wing with vein 5 from the cell.
*a*⁶. Palpi upturned, reaching vertex of head.
*a*⁷. Hind wing with veins 6, 7 stalked EUCHLÆNIDIA, p. 186.
*b*⁷. Hind wing with veins 6, 7 from cell.
*a*⁸. Hind wing with vein 5 from angle of cell.
*a*⁹. Palpi with the 2nd joint broadly scaled; fore wing with vein 6 from angle of cell XANTHOPHÆINA, p. 82.
*b*⁹. Palpi with the 2nd joint smoothly scaled; fore wing with vein 6 from below angle of cell AGOREA, p. 173.
*b*⁸. Hind wing with vein 5 from well above angle of cell METAXANTHIA, p. 172.
*b*⁶. Palpi upturned, not reaching vertex of head, the 3rd joint short AMMALO, p. 83.
*a*⁶. Palpi upturned, the 3rd joint porrect ... ISCHNOCAMPA, p. 114.
*a*⁶. Palpi porrect, reaching well beyond the frons PREPARCTIA, p. 219.
*a*⁶. Palpi porrect, short.
*a*⁷. Hind tibiæ with the medial spurs absent.
*a*⁸. Hind wing with veins 6, 7 stalked ... ANTIOTRICHIA, p. 201.
*b*⁸. Hind wing with veins 6, 7 from cell ... HELIOZONA, p. 218.
*b*⁷. Hind tibiæ with the medial spurs present.
*a*⁸. Antennæ with the shaft dilated just beyond middle BELEMNIASIS, p. 213.
*b*⁸. Antennæ with the shaft not dilated.
*a*⁹. Fore wing with vein 7 from 8, 9 before 10.
*a*¹⁰. Hind wing with veins 6, 7 stalked . HELIACTINIDIA, p. 205.
*b*¹⁰. Hind wing with veins 6, 7 from cell. NICÆA, p. 218.
*b*⁹. Fore wing with vein 7 from 8, 9 beyond 10 BITURYX, p. 175.
*c*³. Fore wing with veins 7, 8, 9 stalked, 10 from cell.
*a*⁴. Palpi upturned.
*a*⁵. Abdomen dorsally clothed with long hair at base.
*a*⁶. Fore tibiæ with curved apical claw HYALARCTIA, p. 143.
*b*⁶. Fore tibiæ without apical claw.
*a*⁷. Fore wing with vein 3 from or from close to angle of cell.
*a*⁸. Hind wing with vein 8 absent OCHRODOTA, p. 89.

- b*⁸. Hind wing with vein 8 present.
*a*⁹. Palpi with the 2nd joint reaching vertex of head.
*a*¹⁰. Palpi with the 3rd joint upturned. PELOCHYTA, p. 103.
*b*¹⁰. Palpi with the 3rd joint porrect ... OPHARUS, p. 117.
*b*⁹. Palpi with the 2nd joint not reaching vertex of head.
*a*¹⁰. Palpi with the 3rd joint upturned.
*a*¹¹. Hind wing with veins 4, 5 stalked. HYPERTHÆMA, p. 88.
*b*¹¹. Hind wing with veins 4, 5 from cell. TESSELLARCTIA, p. 90.
*b*¹⁰. Palpi with the 3rd joint porrect ... HEMIHYALEA, p. 129.
*b*⁷. Fore wing with vein 3 from well before angle of cell.
*a*⁸. Palpi with the 2nd joint reaching vertex of head. ELYSIUS, p. 105.
*b*⁸. Palpi with the 2nd joint not reaching vertex of head.
*a*⁹. Palpi with the 3rd joint upturned.
*a*¹⁰. Hind wing with veins 6, 7 stalked. BRYCEA, p. 187.
**b*¹⁰. Hind wing with veins 6, 7 from cell. HALISIDOTA, p. 145.
*b*⁹. Palpi with the 3rd joint porrect ... AMASTUS, p. 134.
*b*⁵. Abdomen smoothly scaled at base ... PROTOMOLIS, p. 182.
*b*⁴. Palpi porrect.
*a*⁵. Hind wing with veins 6, 7 stalked ... CYANARCTIA, p. 206.
*b*⁵. Hind wing with veins 6, 7 from cell.
*a*⁶. Hind wing with veins 3, 4 stalked to near termen, 5 from cell ... CHLORHODA, p. 421.
*b*⁶. Hind wing with veins 4, 5 stalked, 3 from cell.
*a*⁷. Fore wing with vein 6 from upper angle of cell; hind wing with vein 8 obsolescent ... ÆMILIA, p. 182.
*b*⁷. Fore wing with vein 6 from well below angle of cell; hind wing with vein 8 fully developed. STENARCTIA, p. 417.
*c*⁶. Hind wing with veins 3, 4, 5 from cell.
*a*⁷. Hind tibiæ with the medial spurs absent.
*a*⁸. Fore tibiæ with curved apical claw.
*a*⁹. Head and thorax clothed with rough hair SEIRARCTIA, p. 422.
*b*⁹. Head and thorax smoothly scaled ... DIONYCHOPUS, p. 424.
*b*⁸. Fore tibiæ without apical claw ... TURUPTIANA, p. 425.
*b*⁷. Hind tibiæ with the medial spurs present.
*a*⁸. Fore tibiæ with curved apical claw ... PYGARCTIA, p. 415.
*b*⁸. Fore tibiæ without apical claw.
*a*⁹. Fore wing with vein 3 from near angle of cell.
*a*¹⁰. Fore wing narrow.
*a*¹¹. Head and thorax clothed with woolly hair ... CODIOSOMA, p. 413.
*b*¹¹. Head and thorax smoothly scaled. STENOPHÆA, p. 215.
*b*¹⁰. Fore wing broad.
*a*¹¹. Proboscis aborted, minute.
*a*¹². Abdomen dorsally clothed with rough hair ... APANTESIS, p. 395.
*b*¹². Abdomen smoothly scaled. EUCHÆTES, p. 417.

* Except in *H. sthenia*.

- b*¹¹. Proboscis fully developed HYPOCRISIAS, p. 216.
*b*⁹. Fore wing with vein 3 from well before angle of cell.
*a*¹⁰. Proboscis aborted, minute TESSELLOTA, p. 430.
*b*¹⁰. Proboscis fully developed METACRISIA, p. 431.
*d*³. Fore wing with vein 9 from 10, or 9 and 10 anastomosing with 8 to form the areole.
*a*⁴. Fore wing with veins 4, 5 stalked ATOLMIS, p. 477.
*b*⁴. Fore wing with veins 4, 5 from cell. [p. 456.
*a*⁵. Hind wing with veins 4, 5 stalked. PHRYGANOPTERYX,
*b*⁵. Hind wing with veins 3, 4 stalked ANAPHELA, p. 461.
*c*⁵. Hind wing with veins 3, 4, 5 from cell.
*a*⁶. Proboscis aborted, minute.
*a*⁷. Palpi obliquely upturned EUVERNA, p. 457.
*b*⁷. Palpi porrect.
*a*⁸. Hind tibiæ with the medial spurs absent.
*a*⁹. Fore tibiæ with curved apical claw.
*a*¹⁰. Head and thorax clothed with long hair METACRIAS, p. 467.
*b*¹⁰. Head and thorax smoothly scaled... TERACOTONA, p. 469.
*b*⁹. Fore tibiæ without apical claw MALLOCEPHALA, p. 443.
*b*⁸. Hind tibiæ with the medial spurs present.
*a*⁹. Fore tibiæ with curved apical claw.
*a*¹⁰. Frons with truncate conical prominence..... CHLANIDOPHORA, p. 451.
*b*¹⁰. Frons with rounded prominence ... CARIDARCTIA, p. 452.
*c*¹⁰. Frons without prominence.
*a*¹¹. Abdomen dorsally clothed with long hair CARCINARCTIA, p. 472.
*b*¹¹. Abdomen dorsally nearly smoothly scaled CYMBALOPHORA, p. 472.
*b*⁹. Fore tibiæ without apical claw.
*a*¹⁰. Frons with long bifid process and excised plate below PROSCHALIPHORA, [p. 454.
*b*¹⁰. Frons with rounded prominence ending in a point and curved plate below PROCANTHIA, p. 454.
*c*¹⁰. Frons without prominence.
*a*¹¹. Tibiæ with the spurs long; abdomen slender PARASEMIA, p. 458.
*b*¹¹. Tibiæ with the spurs short; abdomen stout.
*a*¹². Head and thorax clothed with long hair.
*a*¹³. Tibiæ clothed with long hair ... ANTARCTIA, p. 444.
*b*¹³. Tibiæ smoothly scaled.
*a*¹⁴. Shaft of antennæ with ridges of rough scales above EUCHARIA, p. 460.
*b*¹⁴. Shaft of antennæ smoothly scaled.
*a*¹⁵. Fore wing with veins 9, 10 anastomosing with 8 to form the areole..... EUARCTIA, p. 462.
*b*¹⁵. Fore wing with vein 9 from 10 anastomosing with 8 to form the areole ARCTIA, p. 463.
*b*¹². Head and thorax smoothly scaled. ECTYPIA, p. 475.
*b*⁶. Proboscis fully developed.
*a*⁷. Frons with truncate prominence CREMNOPHORA, p. 453.

- b*⁷. Frons with rounded prominence GRAMMARCTIA, p. 455.
*c*⁷. Frons without prominence.
*a*⁸. Palpi with the 3rd joint porrect.
*a*⁹. Fore wing with vein 3 from close to angle of cell; hind wing with vein 8 from middle of cell.
*a*¹⁰. Antennæ pectinate in both sexes; hind wing with vein 5 from angle of cell CALIDOTA, p. 432.
*b*¹⁰. Antennæ simple in both sexes; hind wing with vein 5 from above angle of cell.
*a*¹¹. Palpi with the 3rd joint long PTEROODES, p. 476.
*b*¹¹. Palpi with the 3rd joint short AXIOPÆNA, p. 497.
*b*⁹. Fore wing with vein 3 from long before angle of cell; hind wing with vein 8 from near end of cell.
*a*¹⁰. Proboscis hairy towards base PITANE, p. 438.
*b*¹⁰. Proboscis smooth MIGOPLASTIS, p. 506.
*b*⁸. Palpi with the 3rd joint upturned.
*a*⁹. Hind wing with veins 6, 7 strongly stalked HIERA, p. 477.
*b*⁹. Hind wing with veins 6, 7 from angle of cell or shortly stalked.
*a*¹⁰. Fore wing with the areole long and narrow.
*a*¹¹. Tibiæ with the inner spurs long ... RHODOGASTRIA, p. 498.
*b*¹¹. Tibiæ with the inner spurs short ... MAZERAS, p. 441.
*b*¹⁰. Fore wing with the areole shorter and broad.
*a*¹¹. Hind tibiæ with the spurs long..... BAROA, p. 478.
*b*¹¹. Hind tibiæ with the spurs short ... UTETHEISA, p. 480.
*c*⁹. Hind wing with vein 6 from below angle of cell..... PURIUS, p. 442.
*c*⁸. Palpi porrect.
*a*⁹. Palpi with the 3rd joint long and downcurved SECUSIO, p. 488.
*b*⁹. Palpi with the 3rd joint short HAPLOA, p. 492.
*c*⁹. Fore wing with veins 7, 8 and 9, 10 stalked.
*a*⁴. Proboscis aborted; palpi porrect.
*a*⁵. Head, thorax, and abdomen clothed with long hair PARACLES, p. 450.
*a*⁵. Head, thorax, and abdomen smoothly scaled..... STENUCHA, p. 450.
*b*⁴. Proboscis fully developed.
*a*⁵. Palpi upturned PARAPLASTIS, p. 508.
*b*⁵. Palpi porrect ILEMODES, p. 508.
*b*². Both wings with vein 6 from middle of discocellulars PSYCHARIUM, p. 451.

Genus **THYRARCTIA**, nov.

Type, *T. cedo-nulli*.

Proboscis small; palpi upturned, not reaching vertex of head, the 2nd joint fringed with scales in front, the 3rd minute; antennæ pectinate with moderate branches; a small triangular crest between antennæ; tegulæ with curled hair at apices; thorax with high triangular crest; tibiæ fringed with long hair; abdomen with lateral anal tufts. Fore wing with the costa arched; the termen strongly angled at vein 5; vein 3 from long before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked, 10 from before 7; 11 from cell. Hind wing with the termen slightly angled at veins 5 and 1b; vein 3 from before angle of cell, 5 from angle, 4 absent; 6, 7 coincident and shortly stalked with 8.

*1194. *Thyrarctia cedo-nulli*.

Bombyx cedo-nulli, Stoll, Pap. Exot. iv. pl. 346. A, B (1782); Kirby, Cat. Het. p. 852.

♂. Pale red-brown; palpi white in front; frons barred with white; basal joint of antennæ white; legs with extremities of femora and tibiæ and the greater part of tarsi white; abdomen with orange subdorsal fasciæ and lateral black spots except on terminal segments, the ventral surface white. Fore wing with slight white striga below base of cell; an oblique line from origin of vein 3 to inner margin before middle; some dark brown above and below



Fig. 1.—*Thyrarctia cedo-nulli*, ♂. $\frac{1}{4}$.

origin of vein 2, bisected below it by a pale striga; the end of cell and area just beyond it dark suffused with blue-grey, and with blue-grey lines on its inner edge and discocellulars and an inverted decanter-shaped yellowish hyaline mark in end of cell; a point beyond the cell below vein 6 and three irregular spots between veins 2 and 5 with three spots on termen beyond them; a triangular subapical patch with its inner edge indented and crossed by two brown veins; cilia whitish intersected with brown. Hind wing with the interspaces between veins 2 and 5 hyaline, the inner area darker.

Hab. SURINAM; BRAZIL, Rio Janeiro. *Exp.* 56 millim.

Genus **ROBINSONIA.**

Type.

Robinsonia, Grote, Proc. Ent. Soc. Philad. v. p. 241 (1865)..... formula.

Proboscis fully developed; palpi short, obliquely upturned; antennæ of male serrate and fasciculate; tibiæ with the spurs short; abdomen dorsally clothed with rough hair towards base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked, 7 being given off before 10; 11 from cell. Hind wing with veins 3 and 5 stalked, 4 absent; 6, 7 shortly stalked; 8 from middle of cell.

SECT. I. Fore wing with the apex produced, the termen oblique, especially in ♂.

- | | |
|---|------------------------|
| A. Fore wing white, with brown costal fascia and basal mark only | <i>sabata.</i> |
| B. Fore wing brown, with triangular white patch extending to apex | <i>grotei.</i> |
| C. Fore wing brown, with two white spots below apex. | |
| a. Fore wing with triangular white spot beyond the cell. | |
| a ¹ . Fore wing without subterminal white streaks or spots | <i>deiopæa.</i> |
| b ¹ . Fore wing with subterminal white streaks or spots. | |
| a ² . Fore wing with elliptical white patch below the cell | <i>polyplogia.</i> |
| b ² . Fore wing with triangular white patch in and below the cell..... | <i>sanea.</i> |
| b. Fore wing with elliptical white spot beyond the cell. | <i>flavomarginata.</i> |
| c. Fore wing with three white spots beyond the cell between veins 2 and 6 | <i>lefaivreii.</i> |

*1195. *Robinsonia sabata.*

Robinsonia sabata, Druce, A. M. N. H. (6) xvi. p. 36 (1895); id. Biol. Centr.-Am., Het. ii. p. 390, pl. 77. f. 5.

♀. Head and thorax yellow-brown; palpi and antennæ blackish; frons and vertex of head with white patches, the latter yellow behind; tegulæ and patagia with white patches; fore legs brown, mid and hind legs white; abdomen orange with dorsal series of white points, the ventral surface white. Fore wing pure white with yellow-brown costal fascia, tapering to a point at apex and at base expanding into a triangular spot with a white point on it. Hind wing pure white.

Hab. BR. HONDURAS, Belize (*Sir A. Moloney*), type ♀ in Coll. Druce. Exp. 52 millim. This species is unknown to me.

1196. *Robinsonia grotei.*

Robinsonia grotei, Schaus, Can. Ent. xxvii. p. 61 (1895); Druce, Biol. Centr.-Am., Het. ii. p. 390, pl. 77. f. 2.

Head and thorax pale brown; tips of palpi and frons white; vertex of head orange; tegulæ, patagia, and metathorax with large white patches; pectus white, orange in front; legs white and

brown; abdomen orange with slight dorsal and lateral black points. Fore wing brown, with lanceolate silvery-white patch in submedian interspace from near base to near termen extending just into the cell



Fig. 2.—*Robinsonia grotei*, ♂. 1.

and below vein 1; a wedge-shaped patch from apex to just below vein 3 extending into end of cell. Hind wing semihyaline white.

Hab. MEXICO, Jalapa; COSTA RICA, Candelaria Mts. (*Underwood, Van Patten*), Godman-Salvin Coll.; TRINIDAD; BRAZIL, Rio Janeiro, type † in Coll. Schaus; PERU. *Exp.*, ♂ 52, ♀ 56 millim.

***1197. *Robinsonia deiopea*.**

Robinsonia deiopea, Druce, A. M. N. H. (6) xvi. p. 37 (1895); id. Biol. Centr.-Am., Het. ii. p. 390, pl. 77. f. 9.

♀. Head and thorax brown; palpi and antennæ black; frons and vertex of head white, the latter yellow behind; thorax brown, the tegulæ, patagia, and metathorax with white patches; legs greyish white; abdomen orange with dorsal white points, lateral black spots on terminal segments, the ventral surface white. Fore wing yellow-brown, some yellowish white at base of inner margin; a triangular white patch below the cell extending just into it; a large triangular patch beyond the cell from just above vein 6 to below 3; two conjoined subapical spots and a spot above tornus. Hind wing pure white.

Hab. BR. HONDURAS, Belize (*Sir A. Moloney*), type ♀ in Coll. Druce. *Exp.* 52 millim. This species is unknown to me.

***1198. *Robinsonia polyplagia*. (Plate XXXVI. fig. 1.)**

Robinsonia polyplagia, Schaus, A. M. N. H. (7) vii. p. 266 (1901).

♂. Palpi blackish with white lateral patches on the joints; head white with black bar above frons, the back of head orange; antennæ black; thorax brown, with large white patches on tegulæ, patagia, and metathorax; legs with fuscous streaks; abdomen brownish orange. Fore wing pale yellow-brown, two white points at base, a slight streak below base of costa and two in end of cell; an elliptical silvery-white patch below the cell and triangular patch beyond it; a white streak on middle of inner margin and small spot on vein 1 just beyond middle; a slight streak on vein 7; two elongate spots

below apex and one above tornus, with streaks in the interspaces between them and one on terminal part of inner margin. Hind wing silvery white.

Hab. VENEZUELA, Aroa, type † in Coll. Schaus. *Exp.* 42 millim.

*1199. *Robinsonia sanaea*.

Robinsonia sanaea, Druce, A. M. N. H. (6) xvi. p. 37 (1895); id. Biol. Centr.-Am., Het. ii. p. 390, pl. 77. f. 3.

♂. Head and thorax brown, the vertex of head, tegulæ, patagia, and vertex of thorax with white patches; abdomen brownish orange, the ventral surface white. Fore wing yellow-brown; some yellowish white at base of inner margin; a triangular white patch in and below middle of cell extending to inner margin; a triangular white patch beyond the cell from just above vein 6 to vein 3, with an elongate spot below it extending to termen and another above inner margin; two conjoined subapical spots and spots on termen at veins 5, 4, and 2. Hind wing pure white.

Hab. PANAMA, Chiriqui (*Trotsch*), type ♂ in Coll. Staudinger. *Exp.* 30 millim. This species is unknown to me.

*1200. *Robinsonia flavomarginata*. (Plate XXXVI. fig. 14.)

Robinsonia flavomarginata, Druce, A. M. N. H. (7) iii. p. 466 (1899).

♀. Head and thorax blackish; palpi, frons, vertex of head, tegulæ, and patagia with white spots; thorax with orange-fulvous patch; throat yellow; pectus white; legs striped with black; abdomen blackish above, with orange-fulvous dorsal stripe, the ventral surface white with fuscous bands. Fore wing blackish, with broad orange subcostal fascia from near base to the costa before apex; a white point at base; a large somewhat wedge-shaped patch in submedian interspace; obscure brown-tinged streaks above veins 2 and 3; a large wedge-shaped patch beyond the cell above veins 4, 5; a series of subterminal spots, those above veins 2 and 6 larger. Hind wing semihyaline white, with fuscous terminal band from costa to below vein 2 where it runs inwards; a diffused fuscous streak on inner area.

Hab. COLOMBIA, Bogotá, type † ♀ in Mus. Oxon. *Exp.* 50 millim.

*1201. *Robinsonia lefaivrei*. (Plate XXXVI. fig. 8.)

Robinsonia lefaivrei, Schaus, Can. Ent. xxvii. p. 62 (1895).

♂. Head and thorax dark brown, pairs of white spots on and above frons, on vertex, on basal joint of antennæ, and two pairs on tegulæ; patagia with white patches; neck orange; pectus white; legs striped with brown; abdomen brown with dorsal orange stripe, the ventral surface white. Fore wing brown with subcostal orange stripe; vein 1 and the veins towards termen slightly streaked with orange; a large somewhat wedge-shaped hyaline white patch in submedian interspace; two spots towards apex, a quadrate patch

above vein 4 and wedge-shaped patches above veins 2 and 3; a white streak on middle of inner margin. Hind wing white with fuscous streaks on veins 2 and 1, the former expanding into a patch on termen; veins 3 and 5 shortly stalked.

Hab. BRAZIL, Rio Janeiro, type \dagger ♂ in Coll. Schaus. *Exp.* 46 millim.

SECT. II. Fore wing short and broad.

*1202. *Robinsonia formula*.

Robinsonia formula, Grote, Proc. Ent. Soc. Philad. v. p. 241, pl. 4. f. 3 (1865); Kirby, Cat. Het. p. 235.

♂. Head and thorax brown; vertex of head, tegulae, and patagia with large white patches; back of head and throat with orange spots; legs fuscous striped with white; abdomen orange-red. Fore wing brown, with large fusiform white patch below the cell almost conjoined to a small similar spot above tornus; an oblique band from apex to vein 3 conjoined to a large triangular patch arising in end of cell. Hind wing white; the tornus yellowish; cilia fuscous.

Hab. CUBA, in Coll. Staudinger. *Exp.* 38 millim.

Genus *NEIDALIA*, nov.

Type, *N. villacresi*.

Proboscis absent; palpi obliquely upturned, not reaching vertex of head; antennae of male serrate and fasciculate; head, thorax, abdomen, and legs clothed with rough hair; tibiae with the spurs short. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 7, 8, 9, 10, 11 stalked, 10 from beyond 7. Hind wing with vein 3 from before angle of cell; 4 absent; 6, 7 coincident and 8 strongly stalked with them.

*1203. *Neidalia villacresi*.

Idalus villacresi, Dognin, Ann. Soc. Ent. Belge, xxxviii. p. 238 (1894); id. Lép. Loja, p. 103, pl. 11. f. 2.

♂. Orange-red; palpi, fore femora above, the femoro-tibial joints and tarsi black; ventral surface of abdomen with diffused



Fig. 3.—*Neidalia villacresi*, ♂. \dagger .

blackish bands. Fore wing with very oblique black line from below costa beyond middle to above inner margin before middle, crossing an ochreous white streak on median nervure, expanding in end of cell and with a patch on it below the cell, the veins beyond it black. Hind wing with a slight crimson tinge.

Hab. ECUADOR, Zamora, type \dagger ♂ in Coll. Dognin. *Exp.* 46 millim.

Genus **IDALUS.**

<i>Empusa</i> , Hübn. Verz. p. 170 (1827); nec Ill. Orth. (1798).....	Type. <i>admirabilis</i> .
<i>Idalus</i> , Wlk. iii. 645 (1855).....	<i>admirabilis</i> .
<i>Lampruna</i> , Schaus, P. Z. S. 1894, p. 231	<i>rosea</i> .

Proboscis fully developed; palpi upturned, not reaching vertex of head, the 3rd joint minute; antennæ of male usually biserrate and fasciculate; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from well before angle of cell; 5 from or from above angle; 6 from upper angle; 7, 8, 9, 10 stalked, 10 from beyond 7; 11 from cell. Hind wing with vein 3 from or from just before angle of cell; 4 absent; 6, 7 coincident.

SECT. I. (*Lampruna*). Antennæ of male bipectinate.

A. Hind wing of male with vein 8 shortly stalked with 7, of female strongly stalked.

1204. *Idalus citraria*.

Idalus citrarius, Dogn. Le Nat. ser. 2, vol. iii. p. 173 (1889); id. Léop. Loja, p. 49, pl. 4. ff. 7, 8; Kirby, Cat. Het. p. 198.

♂. Sulphur-yellow; palpi brown above, white below with some pink at sides; antennæ brown; patagia edged with pale purplish



Fig. 4.—*Idalus citraria*, ♂. 1.

grey and pink above; tibiæ and tarsi irrorated with brown; abdomen dorsally tinged with pink. Fore wing with a brownish point in end of cell; a purplish-grey fascia in submedian interspace from near base to the postmedial band, which is oblique from costa before apex to the fascia, then bent outwards to tornus; both the fascia and band are edged with pink and the latter is intersected by the pink veins and is dentate on outer side. Hind wing yellowish white, the inner area tinged with pink.

♀. Without the purplish and pink edges to patagia; abdomen without pink on dorsum; fore wing with brown points in and below middle of cell; the fascia absent, the postmedial band reduced to a series of points; traces of a subterminal series of points; hind wing without pink on inner area.

Hab. ECUADOR, Loja, 1 ♂, 1 ♀. *Exp.* 50 millim.

B. Hind wing of male with vein 8 from towards angle of cell.

1205. *Idalus rosea*.

Lampruna rosea, Schaus, P. Z. S. 1894, p. 231.

♂. Head and thorax orange; palpi scarlet, the 3rd joint fuscous; frons scarlet; antennæ fuscous; tegulæ each with pair of scarlet points; patagia with fuscous patches and scarlet edges; thorax streaked with scarlet; pectus scarlet; tibiæ and base and extremity of tarsi fuscous; abdomen crimson. Fore wing orange-yellow; the costal edge fuscous with scarlet fascia below it; the veins



Fig. 5.—*Idalus rosea*, ♂. ½.

streaked with scarlet; an irregular scarlet spot and some points on basal area; an antemedial fuscous band with irregular scarlet edges, expanding below the cell, with a scarlet spot on it and conjoined to a similar oblique postmedial band; a fuscous spot in upper end of cell and some scarlet markings in and beyond end of cell; a subterminal series of scarlet-edged fuscous points in the interspaces. Hind wing crimson, the costa yellow.

Hab. COLOMBIA, 1 ♂; VENEZUELA, Aroa, 2 ♂ type† in Coll. Schaus. *Exp.* 44 millim.

SECT. II. (*Idalus*). Antennæ of male serrate and fasciculate.

A. Fore wing with vein 5 from angle of cell.

a. Hind wing of male with vein 8 from middle of cell.

a¹. Hind wing of male with the costa very strongly arched and fringed with very long hairs and rough scales, a very large patch of androconia below it on upperside coinciding with a patch on underside of inner area of fore wing; veins 3 and 5 reaching the termen respectively close to 2 and 7.

a². Fore wing with black streaks in the interspaces... *lineata*.

b². Fore wing without black streaks in the interspaces.

a³. Fore wing with the basal half purplish, the terminal half pale yellow..... *hippia*.

b³. Fore wing white *ortus*.

1206. *Idalus lineata*.

Evis lineatus, Druce, Biol. Centr.-Am., Het. i. p. 89, pl. 9. f. 17 (1884); Kirby, Cat. Het. p. 197.

♂. Head and thorax orange and yellowish white; palpi black above; frons with black bar; antennæ fuscous, pale at tips;

tegulæ, patagia, and metathorax with paired black spots; abdomen orange, the extremity, ventral surface, and legs dirty white. Fore wing greyish, the basal half with some yellowish suffusion, the interspaces streaked with black. Hind wing yellowish.

Hab. PANAMA, San Lorenzo (*Champion*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 34 millim.

1207. *Idalus hippia*.

Bombyx hippia, Stoll, Suppl. Cram. pl. 12. f. 8 (1790); Kirby, Cat. Het. p. 197.

Automolis albicollis, Wlk. xxxi. 104 (1864); Kirby, Cat. Het. p. 168.

Idalus lembo, Druce, P. Z. S. 1890, p. 496; Kirby, Cat. Het. p. 198.

♂. Head and thorax fuscous brown; vertex of head orange; tegulæ white; metathorax and pectus in front with slight patches of crimson; abdomen crimson with dorsal white point at base, the



Fig. 6.—*Idalus hippia*, ♂. †.

ventral surface whitish. Fore wing brown, suffused with plum-colour towards the apical third which is yellow, the costa brown to apex; a small scarlet-edged yellow spot in end of cell; some scarlet at base of inner margin and on edge of brown area, and streaks on medial

part of costa and on veins of the yellow area; a curved series of four fuscous points between veins 3 and 8; the costal fascia expanding into a small spot before apex. Hind wing yellowish white. Underside with the patch of androconia on fore wing pure white.

♀. Fore wing with medial red-edged maculate yellow band from subcostal nervure to inner margin; the postmedial and subterminal spots larger; hind wing crimson.

Hab. PANAMA, Bugaba (*Champion*), 1 ♂ Godman-Salvin Coll.; COLOMBIA, Bogotá; SURINAM; BRAZIL, Pará, type † *lembo* in Coll. Druce, Minas Geraes, 1 ♂. *Exp.* 34 millim.

1208. *Idalus ortus*.

Idalus ortus, Schaus, P. Z. S. 1892, p. 279; id. Am. Lep. pl. ii. f. 1.

♀. Pure white; palpi fuscous above; a yellow band between antennæ; abdomen with obscure pink dorsal bands. Fore wing with black point below base of cell; an oblique antemedial series represented by two points in cell and one below it; an oblique medial series with small spots beyond it above veins 3, 4, 5 and above and below 6; a small subterminal spot above vein 5. Hind wing with veins 7, 8 from cell.

♂. Abdomen without trace of pink; fore wing with short black streaks instead of points below vein 2, no subterminal spot.

Hab. VENEZUELA, Aroa, ♂; BRAZIL, Rio Janeiro, 1 ♀ type † in Coll. Schaus. *Exp.* 42 millim.

*b*¹. Hind wing of male with the costa slightly arched and without patch of androconia; female with veins 7, 8 strongly stalked.

1209. *Idalus admirabilis*.

Idalus admirabilis, Cram. Pap. Exot. ii. pl. 103. G (1777); Herr.-Schäff. Aussereur. Schmett. f. 474; Kirby, Cat. Het. p. 198.

♂. Head white; palpi and antennæ ochreous, some yellow between antennæ; thorax white, yellow, and crimson; legs white with slight crimson markings; abdomen crimson; the anal tuft and ventral surface white. Fore wing yellow; the interspaces of basal area with series of blue-grey streaks defined by white and angled on median nervure; some crimson at base of



Fig. 7.—*Idalus admirabilis*, ♂. †.

inner margin; the medial part of costa white; a medial band composed of blue-grey streaks in the interspaces defined by white, produced along costa towards apex, narrowing at discocellulars, then widening and almost joining the basal markings on inner margin; a subterminal blue-grey spot above vein 5. Hind wing crimson, the margins white.

♀. With two of the basal streaks produced in cell; the medial band much more even, hardly produced along costa, widely separated from the basal marking at inner margin, and with a crimson spot beyond it at tornus.

Hab. SURINAM; BRAZIL, Rio Janeiro, 1 ♂ Zeller Coll., 1 ♀. *Exp.* 42 millim.

b. Hind wing with veins 7, 8 shortly stalked in male, the costa slightly arched and without patch of androconia.

1210. *Idalus xanthia*, n. sp.

♂. Orange; palpi black, white in front; frons black with blue patches; antennæ black; legs black striped with yellowish white, the coxæ with blue patches; abdomen with the last four segments black with dorsal and lateral blue spots, the ventral surface yellowish white with black bands;



Fig. 8.—*Idalus xanthia*, ♂. †.

wings uniform orange, hind wing with very slight fuscous mark on termen at vein 2.

Hab. VENEZUELA, Palma Sol, 1 ♂ type. *Exp.* 32 millim.

- B. Fore wing with vein 5 from above angle of cell; hind wing with veins 7, 8 shortly stalked in male, on a long stalk in female.
- a. Fore wing with crimson streak above inner margin to tornus..... *pichesensis*.
- b. Fore wing without crimson streak towards tornus.
- a¹. Fore wing with black and yellow streaks on base of costal area..... *daga*.
- b¹. Fore wing with yellow-centred brown ocellate spots on basal area..... *pandama*.

1211. *Idalus pichesensis*.

Idalus pichesensis, Dyar, Psyche, viii. p. 198 (1898).

♂. Head white; palpi striped with black; frons yellow above; antennæ brownish; thorax white, the tegulæ and metathorax edged with crimson, patagia with yellow spot with fuscous streak above it; legs white, slightly streaked and spotted with black; abdomen crimson with slight segmental lines, the extremity and ventral surface white. Fore wing yellow;



Fig. 9.—*Idalus pichesensis*, ♂. 1.

low; the interspaces of basal area with series of blue-grey streaks defined by white; some crimson at base of inner margin; a medial band composed of blue-grey streaks defined by white, produced along costa, narrowing at discocellulars and produced between veins 3 and 1; a crimson streak beyond it above inner margin to tornus; a subterminal grey stigma above vein 5. Hind wing white, with slight crimson streaks near veins 1 and 2.

♀. With two of the streaks of basal area more produced in cell and the basal and medial bands more approximated on inner margin.

Hab. PERU, Piches; BRAZIL, São Paulo, Rio Janeiro, 1 ♂, 1 ♀. *Exp.*, ♂ 42, ♀ 46 millim.

1212. *Idalus daga*.

Empusa daga, Dognin, Le Nat. 1891, p. 125; id. Lép. Loja, p. 82, pl. 8. f. 3; Kirby, Cat. Het. p. 904.

Head and thorax white; antennæ brownish; palpi above and frons tinged with fuscous; vertex of head, tegulæ, and patagia tinged with orange; metathorax with two black points; pectus in front with orange patch; legs with black points; abdomen orange above with dorsal series of white points, the extremity and ventral surface white; wings white. Fore wing with black streaks on a brownish patch at base from costa to below median nervure, some crimson at base of inner margin; an oblique yellowish-brown irregular medial

band with two black streaks below costa, a spot above vein 6, bars on each side of discocellulars, points above veins 3 and 4, a streak above vein 2 and two in submedian interspace extending to near termen, and a streak above inner margin placed nearer the base; three subterminal black spots between veins 4 and 7.

Hab. VENEZUELA, Aroa; AMAZONS, Olivencas; ECUADOR, Laja; PERU, Chanchamayo, 1 ♂. *Exp.* 40 millim.

Subsp. 1. *dares*, Druce, A. M. N. H. (6) xiii. p. 354 (1894); Biol. Centr.-Am., Het. ii. p. 366, pl. 73. f. 23.

The patches on pectus and dorsal surface of abdomen crimson.

Hab. COSTA RICA (*Zurcher*), 2 ♀ type, Godman-Salvin Coll.

*1213. *Idalus pandama*.

Halisidota pandama, Druce, P. Z. S. 1893, p. 288, pl. 19. f. 8.

♀. Orange-yellow: pectus, mid and hind legs, and ventral surface of abdomen whitish; legs banded with brown. Fore wing with series of yellow-centred brown elongate spots on basal area, the two in submedian interspace longer, the one below vein 1 not reaching base; a rounded spot at middle of cell with an elongate spot just before it on costa; two spots in end of cell, with one above them on costa; spots beyond the cell above bases of veins 2, 3, and 5 and a point above 3; an irregular subterminal series of spots, three towards costa and four towards inner margin elongate and the spot above vein 6 displaced inwards, the spots at end of cell and the subterminal series with obscure yellow centres; a terminal series of elongate spots with prominent yellow centres. Hind wing pale yellow, with terminal series of fuscous patches; the patch below vein 2 large.

Hab. ECUADOR (*Cole*), type ♀ in Coll. Druce; BOLIVIA, R. Songo. *Exp.* 46 millim.

Genus APHYLE.

Aphyle, Wlk. iii. 720 (1855) Type. *margaritacea*.

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennae of male with moderate branches, of female with short branches; tibiae with the spurs short; abdomen dorsally clothed with rough hair towards base. Fore wing with veins 3, 4, 5 from angle of cell; 7, 8, 9, 10 stalked. Hind wing with vein 2 from towards angle of cell; 4 absent; 6, 7 stalked; 8 from middle of cell.

SECT. I. Fore wing with vein 6 stalked with 7, 8, 9, 10, 7 from before 10; 11 from cell; hind wing with veins 3, 5 stalked.

1214. *Aphyle margaritacea*.

Aphyle margaritaceus, Wlk. iii. 720 (1855); Kirby, Cat. Het. p. 204.

♂. Head and thorax white; palpi black at sides, an orange patch on upper part of frons and vertex of head; antennae brown,

the shaft white towards base; patagia with black spots; fore



Fig. 10.—*Aphyle margaritacea*, ♂. 1.

and mid legs spotted and streaked with brown; abdomen dorsally orange fulvous, the ventral surface white. Fore wing semihyaline white slightly tinged with yellow; the costa orange; an oblique black antemedial bar from

below costa to below median nervure, with two spots between it and inner margin; an oblique bar from below costa across end of cell and on base of vein 3; an oblique striga from vein 2 to tornus; a curved line from below costa across apical area to termen and a short streak on apical part of costa. Hind wing strongly tinged with orange fulvous.

♀. Abdomen and wings almost pure white; fore wing without orange costal fascia; antemedial black spots in cell and on inner margin instead of the bar and spots.

Hab. AMAZONS, Pará (Bates), 1 ♂, 1 ♀ type. *Exp.*, ♂ 30, ♀ 38 millim.

SECT. II. Fore wing with vein 6 from the cell; 7 from beyond 10; 11 stalked with 7, 8, 9; hind wing with veins 3, 5 from cell.

1215. *Aphyle incarnata*, n. sp.

♀. Pink, slightly tinged with purplish brown; palpi yellow in front; legs partly yellow; ventral surface of abdomen white. Fore wing with the veins and inner area less tinged with brown; indistinct antemedial, medial, and postmedial waved lines, the last arising from apex, at vein 6 retracted and bent upwards to below vein 7, then waved to tornus, the area



Fig. 11.—*Aphyle incarnata*, ♀. 1.

beyond it yellow with some pink points on the broad medial part. Hind wing paler pink.

Hab. AMAZONS, Oliveneas (Michelli), 1 ♀ type. *Exp.* 36 millim.

Genus **PHÆOMOLIS**, nov.

Type, *P. obscurata*.

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of female with cilia and bristles; tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing rather narrow; vein 3 from well before angle of cell; 5 from above angle; 6, 7, 8, 9, 10 stalked, 10 from beyond 7; 11 free. Hind wing with vein 2 from towards angle of cell; 3, 5 stalked, 4 absent; 6, 7 stalked; 8 from middle of cell.

1216. *Phæomolis obscurata*.

Neritos obscurata, Butl. Ill. Het. B. M. i. p. 51, pl. 17. f. 6 (1877); Kirby, Cat. Het. p. 198.

♀. Head and thorax brown mixed with yellow; palpi fuscous



Fig. 12.—*Phæomolis obscurata*, ♂. 1.

above; abdomen orange, dorsally tinged with crimson towards base. Fore wing yellow, almost entirely suffused with red-brown; two dark points at base; traces of a darker antemedial band recurved in cell, of a dark discoidal spot, and of a postmedial

band, curved from costa to vein 3, then retracted to lower angle of cell; obscure dark marks on termen at vein 5 and tornus; cilia brown. Hind wing yellow tinged with crimson.

Hab. AMAZONS, Prainha (*Trail*), 1 ♀ type. *Exp.* 36 millim.

Genus **PRUMALA**.

Type.

<i>Eucyrtia</i> , Feld. Reis. Nov. p. 4 (1874), non descr.	<i>albicollis</i> .
<i>Symphlebia</i> , Feld. Reis. Nov. p. 9 (1874), non descr.	<i>lophocampoides</i> .
<i>Prumala</i> , Schaus, J. N. Y. Ent. Soc. iv. p. 136 (1896)	<i>jamaicensis</i> .

Proboscis fully developed; palpi upturned, reaching just above vertex of head, the 3rd joint moderately developed; tibiae with the spurs short; abdomen dorsally clothed with rough hair towards base. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked, 7 from 8 before 10; 11 from cell. Hind wing with veins 3 and 5 from angle of cell; 4 absent; 6, 7 stalked.

SECT. I. Antennæ of male bipectinate; hind wing with vein 8 shortly stalked with 6, 7.

- A. Fore wing with two black streaks below costa and a series on veins of terminal area *aryllis*.
- B. Fore wing without black streaks.
 - a. Fore wing orange-yellow.
 - a¹. Fore wing with the postmedial band arising from apex, the markings edged with scarlet ... *lophocampoides*.
 - b¹. Fore wing with the postmedial band arising from well before apex, the markings not edged with scarlet *maculicincta*.
 - b. Fore wing red-brown *jamaicensis*.

*1217. *Prumala aryllis*. (Plate XXXVI. fig. 10.)

Symphlebia aryllis, Schaus, J. N. Y. Ent. Soc. iv. p. 136 (1896).

♀. Orange; palpi above, antennæ, and inner side of fore legs blackish. Fore wing with pale yellow subcostal fascia from near base to beyond middle, with fine black streaks on each side of subcostal nervure, the one above it not nearly reaching base, a short streak below base of median nervure; a yellow fascia above vein 1 from near base to middle, with a fine black streak above the vein

not nearly reaching base; the veins of terminal area streaked with brown. Hind wing semihyaline orange-yellow.

Hab. VENEZUELA, Aroa, type ♀ in Coll. Schaus. *Exp.* 70 millim.

1218. *Prumala lophocampoides*.

Symphlebia lophocampoides, Feld. Reis. Nov. pl. 102. f. 1 (1874); Kirby, Cat. Het. p. 907.

Mazaras ipsea, Druce, Biol. Centr.-Am., Het. i. p. 91, pl. 9. f. 24 (1884); Kirby, Cat. Het. p. 196.

♂. Bright yellow; palpi above, frons, neck, tips of patagia, and a patch on mesothorax crimson; antennæ brown with white tips; patagia with brown patches; legs streaked with brown and crimson; abdomen strongly suffused with crimson above. Fore wing fuscous brown from costa before middle to tornus, edged by a waved scarlet line, a yellow patch edged with scarlet at base of costa and an antemedial spot below cell, the inner margin with scarlet-edged yellow markings from base to middle; a brown point in end of cell, two crimson points on discocellulars, and three brown points beyond the cell; an oblique fuscous-brown band from apical part of costa where it expands to the dark inner area at vein 2, the veins on it streaked with scarlet, its outer edge scarlet and irregularly dentate; a subterminal series of brown points. Hind wing strongly suffused with crimson.

♀. Head and thorax with the crimson and brown markings much reduced. Fore wing with the dark markings on basal and inner area reduced to crimson-edged irregular patches and spots, the postmedial line more maculate; hind wing with the inner half only suffused with crimson.

Hab. MEXICO, Jalapa (*Trujillo*) 1 ♀, Misantla (*Godman*) 1 ♀; GUATEMALA (*Rodriguez*) 1 ♂, Godman-Salvin Coll.; BRAZIL, Castro Paraña. *Exp.*, ♂ 50, ♀ 54 millim.

1219. *Prumala maculicincta*, n. sp. (Plate XXXVI. fig. 11.)

♀. Yellow; palpi fuscous. Fore wing with subbasal red-brown patch from subcostal nervure to vein 1; a maculate antemedial band with two spots beyond it in submedian interspace; two obliquely placed spots in end of cell and a series in the base of interspaces beyond the cell between veins 7 and 2, the spot above vein 2 larger; an oblique maculate postmedial band expanding into a large spot between vein 2 and inner margin, and produced outwards on costa and above vein 5; a subterminal series of spots from costa to vein 2. Hind wing pale yellow, the inner area rather darker.

Hab. BRAZIL, Rio Janeiro, 1 ♀ type. *Exp.* 60 millim.

*1220. *Prumala jamaicensis*.

Prumala jamaicensis, Schaus, J. N. Y. Ent. Soc. iv. p. 137 (1896).

♀. Head and thorax red-brown tinged with olive-yellow;

antennæ, tibiæ, and tarsi fuscous; abdomen crimson. Fore wing red-brown suffused with olive-yellow towards base; a grey and brown patch on middle of inner margin; white points on small



Fig. 13.—*Prumala jamaicensis*, ♀. 1.

brown spots in middle and end of cell, on discocellulars, and above bases of veins 3 and 6; postmedial and subterminal obliquely curved series of similar spots, the spots above veins 1 and 5 of the 1st series larger. Hind wing and underside pale crimson.

Hab. JAMAICA, type ♀ in Coll. Schaus. *Exp.* 52 millim.

SECT. II. Antennæ of male serrate and fasciculate; hind wing with veins 6, 7 on a long stalk.

A. Hind wing with vein 8 shortly stalked with 6, 7.

- | | |
|---|----------------------|
| a. Fore wing yellow, with oblique grey-brown band from middle of costa to tornus | <i>ameoides</i> (♀). |
| b. Fore wing uniform fulvous orange | <i>jalapa</i> . |
| c. Fore wing brown with oblique orange band, subapical fascia, and streaks on the veins | <i>saturata</i> . |

1221. *Prumala ameoides*.

Automolis ameoides, Butl. Journ. Linn. Soc., Zool. xii. p. 421 (1876); id. Ill. Lep. Het. B. M. i. p. 46, pl. 18. f. 4; Kirby, Cat. Het. p. 167.

♀. Head black, with patches of metallic blue on frons and vertex; thorax chrome-yellow, with dorsal black and blue stripe; pectus black, with blue patches at sides and behind fore coxæ which have a yellow spot in front; legs streaked with yellow; abdomen black, with lateral and ventral metallic-blue bands, the 1st three segments with lateral yellow bands and six ventral yellow bands. Fore wing chrome-yellow; an oblique grey-brown band from middle of costa to tornus; a fascia on inner margin commencing in a point before middle; a terminal band expanding somewhat towards apex. Hind wing chrome-yellow, with terminal broad black band, its inner edge angled inwards at vein 2 and produced on inner area to a point near base.

Hab. ECUADOR, St. Inez (*Buckley*), 1 ♀ type. *Exp.* 56 millim.

1222. *Prumala jalapa*.

Halisidota jalapa, Druce, A. M. N. H. (6) xiii. p. 173 (1894); id. Biol. Centr.-Am., Het. ii. p. 372, pl. 74. f. 12.

♂. Fulvous orange; palpi, base of frons, antennæ, femora, and

tarsi fuscous; abdomen with slight dorsal fuscous marks on terminal segments. Hind wing paler.



Fig. 14.—*Prumala jalapa*, ♂. $\frac{1}{2}$.

♀. Abdomen with large purple-fuscous dorsal patches on four terminal segments.

Hab. MEXICO, Jalapa (*Trujillo*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 38 millim.

***1223. *Prumala saturata*.**

Automolis saturata, Wlk. vii. 1635 (1856); Kirby, Cat. Het. p. 170.

Eucyrtia prætexta, Feld. Reis. Nov. pl. 102. f. 5 (1874); Kirby, Cat. Het. p. 167.

♂. Palpi orange, blackish behind; frons blue; vertex of head orange with a blue spot; antennæ brown, the upperside of shaft orange towards base; thorax brown, with a broad orange stripe on tegulæ and upper edge of patagia; legs orange with slight black streaks, the fore coxæ blue and black at sides; abdomen black with broad orange band on 2nd and 3rd segments, the terminal segments with metallic-blue dorsal and lateral spots, the ventral surface with orange bands. Fore wing with the veins streaked with orange; an oblique rather irregular band from vein 6 beyond the cell to above inner margin near base; an oblique subapical fascia, the termen and cilia thickened by large greyish-brown scales narrowing to apex. Hind wing orange, the tornal area brown, its upper edge curved from inner margin near base to termen at vein 4; the underside with a blackish postmedial spot on costa and the tornal patch reduced by orange on termen and inner area.

Hab. AMAZONS, Pará, type in Mus. Oxon., type † ♂ *prætexta* in Coll. Rothschild. *Exp.* 40 millim.

B. Hind wing with vein 8 from just before end of cell.

***1224. *Prumala albicollis*.**

Eucyrtia albicollis, Feld. Reis. Nov. pl. 102. f. 4 (1874); Kirby, Cat. Het. p. 171.

♀. Palpi dark brown, crimson at base and at extremity behind; frons and antennæ dark brown; vertex of head rufous; tegulæ and shoulders pure white; thorax rufous; pectus and legs white, the fore coxæ and streaks on fore tibiæ and below the wings crimson, the mid and hind femoro-tibial joints dark brown; abdomen crimson, with white dorsal spot on 1st segment and points on the other segments, the ventral surface white. Fore wing purplish brown to costa beyond middle and termen above tornus; some crimson at base of inner area; the edge of brown area angled

inwards at vein 5 and outwards at 4; the apical area yellow with orange streaks on the veins; a subterminal series of four brown spots between the costa and vein 4 angled outwards below vein 6.



Fig. 15.—*Prumala albicollis*, ♀. 1.

Hind wing crimson. Underside of fore wing with the brown area crimson except costal area, a large discoidal spot and a mark near tornus.

Hab. AMAZONS (Bates), type † ♀ in Coll. Rothschild. *Exp.* 42 millim.

C. Hind wing with vein 8 from middle of cell.

*1225. ***Prumala fogra*.**

Robinsonia fogra, Schaus, Can. Ent. xxvii. p. 62 (1895).

♂. Palpi black with white patches in front; frons black with white patch; vertex of head yellow, with white bands above frons and on vertex; antennæ blackish; thorax white, the tegulæ and patagia edged with brown; legs striped with brown; abdomen orange, with large fuscous triangular dorsal patch at base with

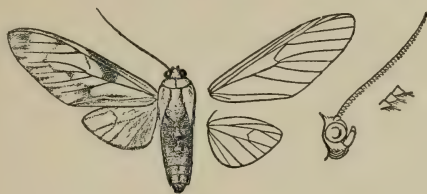


Fig. 16.—*Prumala fogra*, ♂. 1.

white points on it, some dorsal and lateral black striæ towards extremity, the terminal segment black, the ventral surface whitish. Fore wing white; the veins brown; a triangular brown patch on middle of costa extending to median nervure; a slight streak above middle of vein 1 and a streak below the vein; the postmedial line angled above vein 5, then very oblique, becoming dentate and ending in a streak above vein 1; terminal fuscous patches at apex and middle and a series of wedge-shaped marks in the interspaces. Hind wing semihyaline white, the inner area tinged with fuscous; a terminal fuscous line.

Hab. VENEZUELA, Aroa, type † ♂ in Coll. Schaus. *Exp.* 48 millim.

SECT. III. Antennæ of male with bristles and cilia; hind wing with veins 6, 7 shortly stalked, 8 from just before angle of cell.

1226. *Prumala ilus*.

Noctua ilus, Cram. Pap. Exot. i. pl. 92. E (1776); Kirby, Cat. Het. p. 220.
Elysius optimus, Butl. Ill. Het. i. p. 51, pl. 17. f. 8 (1877); Kirby, Cat. Het. p. 219.

♂. Head and thorax yellow, palpi and frons marked with crimson and fuscous; antennæ brown; vertex of head, tegulæ, and patagia with crimson annuli, the two latter edged with crimson; legs yellow, ringed with crimson and fuscous; abdomen crimson, yellow below. Fore wing brown, with series of yellow crimson-edged and centred spots; a spot on costa near base; three antemedial spots; numerous spots in, below, and beyond cell; a curved series beyond the cell and postmedial and subterminal series. Hind wing pale crimson.

Hab. SURINAM; AMAZONS, R. Jurua (*Trail*), 1 ♂ type *optimus*.
Ecp. 32 millim.

Genus **PREMOLIS**, nov.

Type, *P. semirufa*.

Proboscis small; palpi upturned to vertex of head, the 3rd joint short and obtuse; antennæ of female bipectinate, with short branches dilated at extremity and ending in a bristle; tibiæ with the spurs moderate. Fore wing with veins 3, 4, 5 from angle of cell, 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3 and 5 shortly stalked from angle, 4 absent; the discocellulars erect; 6, 7 coincident; 8 very short, from angle of cell, the costa being truncate near apex.

*1227. *Premolis semirufa*.

Halesidota semirufa, Wlk. vii. 1708 (1856); Druce, Biol. Centr.-Am., Het. ii. p. 373, pl. 74. f. 10; Kirby, Cat. Het. p. 211.



Fig. 18.—*Premolis semirufa*, ♀. 1.

♀. Head and thorax brownish yellow; abdomen crimson, with

dorsal yellow tufts on first two segments; pectus and ventral surface of abdomen white. Fore wing yellow, irrorated with red and with traces of numerous waved red lines; an oblique greyish line edged with red from costa before middle to termen above tornus; the area beyond the cell thinly scaled, and with series of red points on the veins, a curved dentate grey band edged with red on inner side from costa before apex to above vein 5, then bent outwards to termen at vein 4. Hind wing crimson, the cilia yellow.

Hab. PANAMA, Chiriqui; AMAZONS, Pará (*Bates*), 1. ♀ type in Mus. Oxon. *Exp.* 62 millim.

Genus EUPSEUDOSOMA.

Eupseudosoma, Grote, Proc. Ent. Soc. Philad. v. p. 240 (1865) ... Type. *involuta*.

Proboscis fully developed; palpi upturned, not reaching vertex of head, the 3rd joint minute; antennæ of male serrate and fasciculate; tibiæ with the spurs short. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with veins 3 and 5 from angle of cell or very shortly stalked; 4 absent; 6, 7 coincident; 8 from cell or stalked with 7.

SECT. I. Hind wing with vein 8 stalked with 6, 7 in male.

*1228. *Eupseudosoma bifasciata*.

Bombyx bifasciata, Cram. Pap. Exot. iii. pl. 252. F (1780); Kirby, Cat. Het. p. 197.

Halisidota eurygania, Druce, Biol. Centr.-Am., Het. ii. p. 372, pl. 74. f. 14 (1897).



Fig. 19.

Eupseudosoma bifasciata, ♂. $\frac{1}{2}$.

♂. Dark red-brown; palpi, frons, patagia, legs, and ventral surface of abdomen redder. Fore wing with slight redder marks at base of median nervure and vein 1; oblique straight fine black medial and postmedial lines not quite reaching costa. Hind wing slightly paler.

Hab. PANAMA, Chiriqui, type † ♂ *eurygania* in Coll. Staudinger; SURINAM. *Exp.* 32 millim.

SECT. II. Hind wing with vein 8 stalked with 6, 7 in female, from middle of cell in male, which has the costa greatly lobed.

1229. *Eupseudosoma involuta*.

Phalena involuta, Sepp, Surin. Vlind. i. pl. 115 (1852); Kirby, Cat. Het. p. 205.

Charidea nivea, Herr.-Schäff. Aussereur. Schmett. i. f. 279 (1855); Grote, P. Ent. Soc. Philad. v. p. 240.

Eupseudosoma floridum, Grote, Can. Ent. xiv. p. 187 (1882); Kirby, Cat. Het. p. 205.

Euchætes immaculata, Graef. Ent. Am. iii. p. 42 (1887); Kirby, Cat. Het. p. 236.

Silky white; palpi above, a bar on frons, and antennæ fuscous;



Fig. 20.—*Eupseudosoma involuta*, ♂. 1.

vertex of head yellow; pectus crimson in front; legs fuscous above; abdomen crimson above with dorsal series of white points; the 1st and two terminal segments and the ventral surface white. Fore wing with the costal edge fuscous;

curved fuscous lines below the cell and vein 2 and above 5.

Ab. 1. *florida*. Fore wing with the two fuscous lines obsolete.

Hab. U.S.A., Florida, Palm Beach (*Dyar*) 1 ♀; MEXICO; CUBA; TRINIDAD, 1 ♀ (*Broadway*); GUIANA; SURINAM; BRAZIL, Pernambuco 1 ♀ (*H. N. Ridley*). *Exp.* 40–44 millim.

Egg. Dyar, P. U. S. Nat. Mus. 1900, p. 258.

Somewhat conoidal, base flat, apex slightly produced; yellowish green with amber shades, later opaque whitish green; reticulations small, regular, rounded hexagonal, slightly raised, forming a ring of small cells round the micropyle, which is slightly off the centre; laid on back of leaf in a mass or scattered.

Larva. Stage 1. Head somewhat rounded and bilobed; clypeus high; antennæ moderate; primary setæ short, black, distinct; i. and ii. rather near vertex, iii. at middle of lobe, iv. near ocelli, three behind ocelli (one inclosed) and two above antennæ; jaws brown; ocelli black. Body arciform, with large tubercles and thick spinulose white hair; segments contracted; no shields; tubercles i. *a* + i. *b* + ii. *a* on somites 2–3 distinctly united on a flattened fan-shaped wart; ii. *b* small, posterior; iv. large; vi. dark; on abdominal somites i. small, dark; iv. stigmatal, posterior, rather small; v. larger; setæ single, no subprimaries; body a little flattened; the lateral tubercles, especially on somites 2–4, a little prominent. Colour transparent whitish, tubercles ii., iii. on somites 10, 11, 12 anteriorly dark ochreous; hairs white.

Stage 2. Head flattened before, distinctly bilobed; somites 2 to 4 largest, 1 retracted and weak, 12 small; warts moderate, spherical, with rather dense, white, stiff spinulose hair, longest on somites 2, 3, few on 1; prespiracular and subventral warts present; on somites 2–3 one wart above the stigmatal wart round, produced; on abdominal somites i. small, ii. large, iii., iv., v. small, vi. larger on the subventral fold; no anal plate but warts on the flap. Colour luteous white, the sides tinged with pale vinous, deeper near subdorsal tubercles of somites 2, 3, and below warts ii., iii. of somites 4, 5, and 9, more distinct on 10–12, forming oblique orange-red streaks from wart ii. on somites 11, 12.

Stage 3. Clypeus luteous; a vinous spot on vertex; warts round, produced, colourless except the subdorsal warts of somites 2, 3 which are vinous, and ii. of 11-12 which are orange; i. small, ii., iii. large, v. small, vi. large, produced; the vinous colour covering dorsum on 2-9.

Stage 4. Head rounded, slightly bilobed; jaws black at tip; body short, thick, pale testaceous tinged with vinous, the oblique streaks on somites 10-12 dark; warts rounded, elevated; hair dense, stiff, flesh-coloured with black tips, barbuled; somite 4 with a diffused dorsal black patch, the hair from tubercle i. and part of ii. short, black; a slight similar shade on somite 9.

Stage 5. Antennæ rather long; the markings replaced by dense hair, but the diffused dorsal black patches present; hair bright brown with black tips, with a few long pale hairs overhanging the head; a slight black-crested tuft on upperside of tubercle i. on somite 4.

Stage 6. Head whitish, with large, thick, irrorated, U-shaped black mark bordering clypeus, with a short spur at sides below; antennæ pale; body rounded, flattened ventrally, and depressed at ends, clothed with dense brush-like pale yellowish hair, the ends slightly brown-tufted; somites 2, 3 with long slender white pencils from subdorsal warts; warts i.-vi. large and rather contiguous.

Stage 7. Head pale yellow, with a diffused reddish shade on face of each lobe, the paraclypeal pieces and some dots on clypeus grey; later the head becoming dark orange-red. Some of the larvæ alike till this stage came out with variously coloured hair, yellow, mouse-grey, chocolate-brown, and orange-red, the colour residing in the spinulose part of the hair, in all the thoracic pencils being white; later the colours became dull, yellow and chocolate-brown forms remaining till mature.

Cocoon formed of hair felted on a delicate silk web; pupa dark brown. Food-plant, *Eugenia buxifolia*, *E. procera*, and *Psidium pyrifera*.

SECT. III. Hind wing with vein 8 from middle of cell in ♂, from angle in ♀, the costa not lobed.

1230. *Eupseudosoma agramma*, n. sp.

Eupseudosoma involutum, Druce, Biol. Centr.-Am., Het. ii. p. 391 (part.).



Fig. 21.

Eupseudosoma agramma, ♂. 4.

Pure white; palpi above and antennæ tinged with fuscous; vertex of head yellow; fore legs fuscous above; abdomen crimson above with dorsal series of white points, the 1st and two terminal segments and the ventral surface white; wings pure white.

Hab. MEXICO, Jalapa (*Hoege*), 1 ♂ type, Cordova (*Kumeli*), 1 ♂, Vera Cruz. *Exp.* 38 millim.

Genus **NEAXIA**, nov.

Type, *N. theon*.

Proboscis fully developed; palpi upturned, hardly reaching vertex of head; antennæ of male with short branches ending in a bristle. Fore wing with vein 3 from well before angle of cell; 5 from just above angle; 6 from upper angle; 7, 8, 9, 10 stalked, 10 from beyond 7; 11 from cell. Hind wing with veins 3, 4, 5 coincident and 2 stalked with them; 6, 7 coincident; 8 from middle of cell; the basal part of costa greatly lobed, apical part truncate; a patch of androconia on upperside on subcostal nervure at end of cell.

*1231. **Neaxia theon**.

Amasia theon, Druce, A. M. N. H. (7) vi. p. 66 (1900).

♂. Head and thorax pale yellow; palpi white in front, black behind; antennæ brown, white at tips; frons with a brown spot; tegulæ with brown spots in front and brown at sides; patagia and thorax striped with brown and orange; abdomen dorsally fuscous brown except the terminal segment, with a dorsal orange tuft on 3rd segment; pectus, legs, and ventral surface of abdomen whitish. Fore wing



Fig. 22.—*Neaxia theon*, ♂. 1.

pale yellow; some confluent brown spots at base, on costa, and below cell; an antemedial band of confluent brown spots expanding on inner margin to tornus, with a scarlet and yellow point on it at origin of vein 2, two in submedian fold, and short streaks on vein 1 and above inner margin; a small dark annulus in end of cell and a curved series of five just beyond the cell; a post-medial series of elongate spots from costa to vein 4, the spot above vein 5 longer, and small spots above veins 3 and 2; subterminal and terminal series of small spots. Hind wing semihyaline whitish, the inner and terminal areas broadly tinged with brown; the patch of androconia orange.

Hab. VENEZUELA, Merida (*Briceno*), type † ♂ in Coll. Druce. *Exp.* 42 millim.

Genus **ERIOSTEPTA**, nov.

Type, *E. roseireta*.

Proboscis fully developed; palpi upturned, reaching vertex of head; antennæ of male with short branches ending in a bristle; tibiae with the spurs short; abdomen dorsally clothed with rough hair. Fore wing broad, the termen obliquely rounded; vein 3 from before angle of cell; 5 from just above angle; 6 from upper angle; 7, 8, 9, 10 stalked, 10 from beyond 7; 11 free. Hind wing with vein 2 from close to angle of cell; 3, 4, 5 coincident; 6, 7 coincident; 8 from middle of cell obsolescent; male with the inner area very

much enlarged, the tornus produced to a long lobe, the whole wing clothed with long rough hair on upperside, the inner area with a large fold containing tufts of long hair on underside.

1232. *Eriostepta roseireta*, n. sp.

♂. Yellow; palpi, frons, vertex of head, base of antennæ, thorax, and fore legs above marked with crimson; abdomen crimson above. Fore wing reticulated with crimson markings; the costal area lilacine grey with crimson streak below costa; crimson-edged lilacine-grey spots just beyond upper and lower angles of cell, the latter conjoined to



Fig. 23.

Eriostepta roseireta, ♂. 1.

elongate spots in submedian interspace and at tornus; three obliquely placed spots across apical area; a crenulate subterminal crimson line with series of spots on the veins beyond it. Hind wing suffused with crimson in and beyond the cell and on middle of inner area.

Hab. AMAZONS, Olivencas (*Michelli*), 1 ♂ type. *Eap.* 38 millim.

Genus **DEMOLIS**, nov.

Type, *D. albicostata*.

Proboscis fully developed; palpi obliquely upturned, not reaching vertex of head; frons clothed with rough hair; antennæ of male serrate and fasciculate; tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing with veins 3, 4, 5 from lower angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3 and 5 from angle of cell, 4 absent; 6, 7 on a long stalk and 8 stalked with them.

1233. *Demolis albicostata*, n. sp.

Head orange-yellow, frons reddish; palpi and antennæ brown, the latter white towards tips; tegulæ yellow, brown at sides; patagia brown with crimson upper edge; thorax yellow with crimson tufts on meta-thorax; pectus and legs white, fore coxæ crimson; abdomen crimson, the terminal segment and anal tuft white. Fore wing red-brown to middle of costa and tornus, edged by a crimson line angled beyond lower angle of cell



Fig. 24.—*Demolis albicostata*, ♀. 1.

and with slight crimson patches on base of inner margin, below middle

of cell, and on discocellulars; the basal half of costal edge white; the apical half of wing yellow. Hind wing pale crimson, with a whiter area from the base through the cell to middle of termen. Underside of fore wing with the medial area crimson.

Hab. BRAZIL, Rio Grande do Sul, 1 ♂, 1 ♀ type. *Exp.* 34 millim.

Genus **AMAXIA.**

<i>Amaxia</i> , Wlk. iii. 721 (1855)	Type. <i>pardalis.</i>
? <i>Echeta</i> , Herr.-Schäff. Aussereur. Schmett. p. 16 (1850)	<i>divisa.</i>

Proboscis fully developed; palpi upturned and reaching vertex of head, the 3rd joint minute; antennæ bipectinate with moderate branches; tibiæ with the spurs short; abdomen dorsally clothed with hair at base. Fore wing with vein 3 from long before angle of cell; 4, 5 separate at origin; 6 from or from below upper angle; 7, 8, 9, 10 stalked, 11 from cell. Hind wing with vein 2 from or from before angle of cell or stalked with 5; 3, 5 stalked or coincident; 4 absent; 6, 7 coincident; 8 from middle of cell, curved and not reaching costa, which is strongly lobed at base in male.

SECT. I. Hind wing of male with the base of costa very strongly lobed, with a large patch of androconia on upperside corresponding with a patch on underside of inner area of fore wing; veins 2 and 5 stalked, 3 and 5 coincident.

- A. Abdomen crimson above *osmophora.*
B. Abdomen brown above *apyga.*

1234. **Amaxia osmophora**, n. sp.

Amaxia dyuna, Druce, Biol. Centr.-Am., Het. ii. p. 369 (nec Schaus).

♂. Head and thorax bright yellow; palpi above and antennæ brownish; a band on frons and neck orange; patagia and thorax with crimson and brown spots; legs streaked with fuscous; abdomen crimson, the terminal segment yellow, the ventral surface white.



Fig. 25.—*Amaxia osmophora*, ♂. 1.

Fore wing bright yellow; crimson - edged grey basal and subbasal spots below median nervure and two smaller spots below costa; a very irregular medial band not reaching costa, and constricted above inner margin and crossed by crimson streaks on median

nervure, vein 2, and submedian interspace, and almost conjoined to small spots on and above vein 2 and a postmedial patch on inner margin; a discoidal spot and some beyond the cell between veins 3 and 8; a postmedial series, of which three below costa are large and elongate; a subapical lunulate spot and subterminal and terminal series of small spots. Hind wing pale pink; the costal area white; the cilia yellow.

Hab. COSTA RICA, Candelaria Mts. (*Underwood*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 40 millim.

1235. *Amaxia apyga*, n. sp. (Plate XXXVI. fig. 7.)

Amaxia pyga, Druce, Biol. Centr.-Am., Het. ii. p. 369 (nec Schaus).

♂. Head, tegulæ, and base of patagia bright yellow; palpi above and antennæ brown; thorax and abdomen brown, the latter yellow towards extremity; pectus and ventral surface of abdomen white; fore and mid legs yellow. Fore wing bright yellow, with a large brown patch on inner area extending below the costa from base to middle, then to inner margin near tornus, its edges irregular, a crimson point on middle of median nervure and slight streaks on the veins and interspaces; a discoidal brown point and a series beyond the cell between veins 3 and 7; a postmedial series, of which four towards apex are larger, edged with crimson, curved and more or less conjoined; a subterminal series. Hind wing brown, with the costa and termen yellow to the submedian fold.

Hab. COSTA RICA, Candelaria Mts. (*Underwood*), 1 ♂ type, Godman-Salvin Coll.; HONDURAS; AMAZONS, Olivencas. *Exp.* 40 millim.

SECT. II. Hind wing of male with the costa less strongly lobed and with small patches of androconia on fore and hind wings; vein 2 from the cell, 3 and 5 on a long stalk.

- A. Fore wing without silvery markings on inner area.
 - a. Fore wing with the veins not streaked with scarlet. *dyuna*.
 - b. Fore wing with the veins streaked with scarlet..... *erythrophleps*.
- B. Fore wing with silvery markings on inner area *chaon* (♀).

1236. *Amaxia dyuna*.

Amaxia dyuna, Schaus, J. N. Y. Ent. Soc. iv. p. 135 (1896).

♂. Head and thorax bright yellow; palpi above, frons, and pectus in front marked with crimson; patagia and thorax with patches of crimson and brown; fore legs streaked with fuscous; abdomen crimson, a dorsal spot on 2nd segment and the terminal segment yellow, the ventral surface white. Fore wing bright yellow, with crimson-edged basal and three subbasal spots; a very large oblique and very irregular medial patch from below costa to inner



Fig. 26.—*Amaxia dyuna*, ♂. 1.

margin near tornus; a discoidal spot and a series beyond the cell

between veins 3 and 8; a postmedial series, of which three below costa are large and elongate, and with two spots beyond them; subterminal and terminal series of small spots and a ciliary series of points. Hind wing pale pink, the costal area white, the cilia yellow.

Hab. BRAZIL, São Paulo (*D. Jones*), 2 ♂. *Exp.* 34 millim. Type † in Coll. Schaus.

1237. *Amaxia erythrophleps*, n. sp. (Plate XXXVI. fig. 16.)

♂. Head and thorax ochreous tinged with pale reddish brown; sides of palpi, vertex of head, tegulæ, and patagia with scarlet points; abdomen crimson above, ochreous below. Fore wing ochreous, the veins streaked with scarlet; antemedial and medial reddish-brown maculate bands with highly waved edges; a postmedial maculate band from costa to vein 5, then reduced to a series of small spots joining the medial band at vein 2; subterminal and terminal series of small spots. Hind wing crimson.

Hab. UPPER AMAZONS, 1 ♂ type. *Exp.* 30 millim.

*1238. *Amaxia chaon*.

Zatrephes chaon, Druce, P. Z. S. 1883, p. 383, pl. 40. f. 10; Kirby, Cat. Het. p. 196.

♀. Head, tegulæ, and base of patagia yellow; palpi, base of frons, and antennæ crimson, the rest of patagia, thorax, and abdomen above crimson; legs crimson and buff; ventral surface of abdomen buff. Fore wing yellow, the area from base to near middle on costa, and to tornus purple, becoming crimson on costal area, in cell, and on inner margin, and leaving a yellow streak on base of costa; a silver point below costa before middle, slight yellow marks in the cell, a silver point at base below cell, two obliquely placed conjoined silver spots below cell and on inner margin, the last followed by two points and a striga; a postmedial red point on vein 5 and two each on veins 3 and 4; a triangular red patch on costa before apex extending down to vein 4, its apex attenuate and bent first inwards then outwards. Hind wing semihyaline yellowish white, the inner area tinged with crimson. Antennæ with the basal third bipectinate, then serrate.

Hab. ECUADOR, Sarayacu (*Buckley*), 1 ♀ type † in Coll. Druce. *Exp.* 38 millim.

SECR. III. Hind wing of male with the costa slightly lobed and without patches of androconia.

A. Hind wing with vein 2 from near angle of cell; 3 and 5 on a long stalk.

a. Abdomen brown above *pyga.*
b. Abdomen crimson above..... *hebe.*

*1239. *Amaxia pyga*.

Amaxia pyga, Schaus, P. Z. S. 1892, p. 279; id. Am. Lep. p. 9, pl. 1. f. 27.

Head, tegulæ, and base of patagia bright yellow; palpi above and antennæ brown; thorax and abdomen brown above, the latter with the extremity yellow; pectus and ventral surface of abdomen white; fore legs yellow.



Fig. 27.—*Amaxia pyga*, ♂. 1.

Fore wing bright yellow, with a large brown patch on inner area extending below the costa from base to middle, then obliquely to tornus, with rather irregular edge, the veins crossing it and streaks in cell and submedian interspace

crimson; a discoidal brown point; a series beyond the cell between veins 3 and 7; a postmedial series of which four towards apex are large edged with crimson and more or less conjoined and curved; a subterminal series of points. Hind wing brown, the costal area white; the cilia yellowish.

Hab. BRAZIL, Rio Janeiro, type † in Coll. Schaus. *Exp.*, ♂ 36, ♀ 40 millim.

*1240. *Amaxia hebe*.

Amaxia hebe, Schaus, P. Z. S. 1892, p. 278; id. Am. Lep. pl. 1. f. 28.

♂. Head, tegulæ, and base of patagia yellow; palpi crimson above; antennæ brown, white at tips; thorax crimson slightly streaked with brown; abdomen crimson, the extremity yellow, the ventral surface white; legs crimson and yellow. Fore wing yellow, with large crimson-edged brown patch extending below costa from base to middle, then obliquely to tornus, and enclosing a crimson-edged yellow spot on middle of inner margin; a pale brownish discoidal point, a series beyond cell between veins 3 and 7, and postmedial and subterminal series; a subapical crimson patch with two conjoined fuscous spots on it. Hind wing crimson, the costal area and cilia yellow.

Hab. BRAZIL, Rio Janeiro, type † in Coll. Schaus. *Exp.* 36–40 millim.

B. Hind wing with vein 2 from well before angle of cell; 3 and 5 shortly stalked.

a. Head and thorax yellow *pardalis*.
b. Head and thorax crimson *divisa*.

1241. *Amaxia pardalis*.

Amaxia pardalis, Wlk. iii. 721 (1855); Kirby, Cat. Het. p. 196.

♂. Head and thorax bright yellow; palpi and frons marked

with crimson and fuscous above; patagia and thorax with rufous spots; tibia and tarsi with fuscous points; abdomen crimson, the extremity yellow, the ventral surface white. Fore wing bright



Fig. 28.—*Amaxia pardalis*, ♂. †.

yellow with crimson-edged basal and three subbasal spots; an antemedial series of irregular conjoined spots connected with tornus by a similar series; two discoidal points and a series beyond cell between veins 3 and 8; a postmedial obliquely curved series, of which three below costa are large and elongate and with some oblique spots beyond them from apex; a subterminal series of small spots. Hind wing white, tinged with crimson towards inner margin and yellow towards termen.

Hab. AMAZONS, Ega (*Bates*), 1 ♂ type. *Exp.* 38 millim.

*1242. *Amaxia* ? *divisa*.

Cretonotus divisus, Herr.-Schäff. Aussereur. Schmett. f. 282 (1850); Kirby, Cat. Het. p. 197.

♂. Head, thorax, and abdomen deep crimson. Fore wing deep crimson, a white point at base; two sinuous darker lines arising from middle of cell, the 1st incurved, the 2nd excurved; the crimson extends on costa to well beyond middle and to termen at submedian fold, its edge being strongly incurved between those points; the terminal area pale yellow, with a crimson apical patch extending to vein 5. Hind wing with the costal half hyaline, the inner half red, with two short hyaline postmedial streaks below vein 2.

Hab. ignotus. *Exp.* 38 millim. This species is unknown to me.

Genus **EVIUS**.

Type.

Evius, Wlk. iii. 639 (1855) *aurococcinea*.

Proboscis fully developed; palpi upturned, reaching vertex of head, the 3rd joint minute; antennæ of male fasciculate, tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from well before angle of cell; 4, 5 separate at origin; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with vein 2 from long before angle of cell; 3, 5 stalked; 4 absent; 6, 7 coincident; 8 from middle of cell and strongly curved; the costa very strongly lobed in male.

1243. *Evius aurococcinea*.

Evius aurococcineus, Wlk. iii. 640 (1855); Kirby, Cat. Het. p. 197.

♂. Palpi and antennæ fuscous, striped with crimson above, white at tips; head orange, frons crimson at sides; tegulæ, patches on patagia, and mesothorax orange edged with crimson; thorax

purplish grey with some crimson markings; pectus and legs white; fore coxæ and stripes on femora and tibiæ crimson; abdomen crimson with dorsal white point at base, the extremity and ventral surface crimson. Fore wing purplish fuscous, tinged with crimson towards inner margin, reaching on costa to near apex and leaving



Fig. 29.—*Evius aurococcinea*, ♂. $\frac{1}{4}$.

the apical third yellow; a white fascia on basal half of costa; a crimson streak on subcostal nervure, the edge of the brown area crimson, and a patch at base of inner margin; a curved series of four fuscous points between veins 3 and 8. Hind wing crimson, the costal area pale. Underside of fore wing with the costa streaked with fuscous.

Hab. AMAZONS, Pará (Bates), 1 ♂ type. *Exp.* 38 millim.

Genus **NEONERITA**, nov.

Type, N. dorsipuncta.

Proboscis fully developed; palpi upturned, reaching vertex of head; antennæ of male bipectinate with short branches ending in a bristle; tibiæ with the spurs short; abdomen dorsally clothed with long hair at base. Fore wing rather narrow; veins 3, 4 strongly stalked; 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked, 10 from beyond 7; the upper angle of cell much produced; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 5 strongly stalked; 4 absent; 6, 7 very strongly stalked; 8 from middle of cell.

1244. *Neonerita dorsipuncta*, n. sp.

♂. Palpi and frons whitish, brown above; antennæ brown; vertex of head and thorax ochreous marked with crimson; abdomen crimson, with pure white dorsal points on first two segments; pectus, legs, and abdomen white, the fore legs brown in front. Fore wing ochreous suffused with brown; the base of inner margin crimson edged with yellow; crimson annuli on yellow spots in and below middle of cell; crimson-centred yellow spots on base of vein 2 and above and below middle



Fig. 30.—*Neonerita dorsipuncta*, ♂. $\frac{1}{4}$.

of vein 1, all these spots forming a confluent cluster; vein 1, the end of median nervure, and vein 3 streaked with black; a semihyaline yellow patch from subcostal nervure in and beyond angle of cell to middle of termen, with a black point on it at upper angle of cell and another on termen below vein 4; the apical area edged with brown especially on lower edge, where the brown is dentate and forks to termen, and with some crimson on its edge; two yellow points on termen towards tornus. Hind wing crimson, the discal area semihyaline.

Hab. BRAZIL, Rio Grande do Sul (*Mabilde*), 1 ♂ type. *Exp.* 36 millim.

Genus *ARÆOMOLIS*, nov.

Type, *A. rhodographa*.

Proboscis fully developed; palpi upturned, reaching vertex of head, the 3rd joint somewhat porrect; frons with slight tuft; antennæ of male bipectinate; tibiæ with the spurs short; abdomen dorsally clothed with rough hair towards base. Fore wing long and narrow; vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked, 10 from beyond 7; 11 free. Hind wing with vein 2 from towards angle of cell; 3, 5 on a long stalk, 4 absent; 6, 7 stalked almost to apex; 8 from middle of cell.

1245. *Aræomolis rhodographa*, n. sp.

♂. Yellow; head and thorax with crimson lines and annuli; palpi brown in front; antennæ brown; legs brown, the fore coxæ, tibiæ above, and tarsal joints marked with crimson; abdomen



Fig. 31.—*Aræomolis rhodographa*, ♂. ‡.

crimson above except at base and extremity. Fore wing with crimson streaks and highly sinuous markings in and below cell on basal half; a brownish fascia on costa to beyond middle; a sinuous band from base of costa to middle of inner margin; a mark in end of cell; a broad irregular subterminal band conjoined at vein 5 to a band on apical part of termen and extending to termen above tornus; a round hyaline white spot just beyond end of cell; the veins of terminal area streaked with crimson. Hind wing with the apical part of costa tinged with crimson.

Hab. COLOMBIA; AMAZONS, Rio Negro, Thomar (*Hahnel*), 1 ♂ type. *Exp.* 34 millim.

Genus *PAREVIA*, nov.

Type, *P. sisenna*.

Proboscis fully developed; palpi upturned, reaching vertex of head; antennæ of female ciliated. Fore wing with vein 2 from just beyond middle of cell; 3 from close to angle; 4, 5 from angle; 6 from below upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 2 from towards angle of cell; 3 and 5 on a long stalk; 4 absent; 6, 7 on a long stalk; 8 from middle of cell.

*1246. *Parevia sisenna*.*Evius sisenna*, Druce, A. M. N. H. (7) iii. p. 466 (1899).

♀. Palpi orange-red with a purplish patch in front; frons brown with orange-red band above; vertex of head and basal joint of antennæ yellow; antennæ and thorax brown; fore legs yellow; abdomen crimson, with the ventral surface yellow. Fore wing purplish brown, with conical yellow patch on costa just before middle and two spots beyond it towards apex; orange

Fig. 32.—*Parevia sisenna*, ♀. †.

medial points above and below vein 1; some yellow marks on termen expanding into a conical patch at middle. Hind wing crimson, with terminal fuscous band expanding very widely towards costa; cilia yellow at tips.

Hab. BRAZIL, Espiritu Santo, type † ♀ in Mus. Oxon.; PERU, Sarayacu. *Exp.* 26 millim.

Genus **AUTOMOLIS**.

	Type.
<i>Automolis</i> , Hübn. Verz. p. 170 (1827)	<i>syphilus</i> .
<i>Rhipha</i> , Wlk. i. 273 (1854)	<i>strigosa</i> .
<i>Apyre</i> , Wlk. ii. 490 (1854)	<i>separata</i> .
<i>Arara</i> , Wlk. iii. 641 (1855)	<i>vittipes</i> .
<i>Scaptius</i> , Wlk. iii. 642 (1855)	<i>ditissima</i> .
<i>Ormetica</i> , Clem. Proc. Acad. Nat. Sci. Philad. 1860, p. 544 (1861)	<i>tæniata</i> .
<i>Cratoplastis</i> , Feld. Reis. Nov. p. 3 (1874)	<i>diluta</i> .
<i>Euplesia</i> , Feld. Reis. Nov. p. 5 (1874), non descr.	<i>sphingidea</i> .
<i>Ischnognatha</i> , Feld. Reis. Nov. p. 6 (1874), non descr.	<i>semiopalina</i> .
<i>Apiconoma</i> , Butl. Journ. Linn. Soc., Zool. xii. p. 422 (1876).	<i>opposita</i> .
<i>Sutonocrea</i> , Butl. Journ. Linn. Soc., Zool. xii. addenda (1876)	<i>reducta</i> .
<i>Machæroptenus</i> , Schaus, P. Z. S. 1894, p. 228	<i>ventralis</i> .
<i>Cresera</i> , Schaus, P. Z. S. 1894, p. 232	<i>annulata</i> .
<i>Gorgonidia</i> , Dyar, J. N. Y. Ent. Soc. vi. p. 36 (1898)	<i>garleppi</i> .

Proboscis fully developed; palpi upturned, the 2nd joint thickly scaled, the third usually hardly reaching vertex of head and short; vertex of head, thorax, and abdomen clothed with rough hair; tibiæ with the spurs moderate. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle or 5 from above angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing short and broad; vein 2 from long before angle of cell; 3 from or from before angle; 5 from or from above angle; 4 absent; the discocellulars erect; 6, 7 stalked or coincident; 8 from or from before upper angle or stalked with 7.

SECT. I. Hind wing of male with the costa highly lobed; a sexual patch below costa on upperside.

- A. Hind wing with vein 3 from or from near angle of cell;
5 from above angle. ♂ with veins 6, 7 coincident, and
8 from middle of cell. ♀ with veins 7, 8 stalked.

a. Antennæ of male bipectinate.

a¹. Fore wing yellow with blue-grey bands *critheis*.

b¹. Fore wing white with brown fasciæ on costa and from
base to tornus *larissa*.

1247. *Automolis critheis*.

Idalus critheis, Druce, Biol. Centr.-Am., Het. i. p. 89, pl. 9. f. 19 (1884);
Kirby, Cat. Het. p. 198.

♂. Palpi and antennæ brownish, the former crimson at base; head and thorax white, the vertex of head and a band across end of patagia and mesothorax orange; legs white, slightly striped with brown; abdomen crimson above with traces of dorsal white points, the ventral surface white. Fore wing yellow, the base white, with basal and oblique subbasal series of blue-grey spots, the base of inner margin crimson; the white extending on inner area to the medial blue-grey band which is slightly incurved, produced along costa towards apex, defined on inner side by white and with the veins on it white. Hind wing white, the inner area tinged with crimson.

♀. Hind wing yellowish, with hardly any crimson on inner area.

Hab. PANAMA, type † ♀ in Coll. Staudinger, La Chorrera (*Dolby-Tylor*) 1 ♂; BRAZIL, 1 ♂, São Paulo, Mañaos. *Exp.* 36 millim.

*1248. *Automolis larissa*.

Idalus larissa, Druce, P. Z. S. 1890, p. 496, pl. 42. f. 5; Kirby, Cat. Het. p. 198.

♂. Head and thorax white; palpi, a band on frons, and antennæ brown; a yellow band between antennæ; thorax tinged with crimson and with two crimson points; fore tibiæ and tarsi brown; abdomen dorsally deep crimson, with white spots on first two segments, the ventral surface white. Fore wing pearly semihyaline white; a brown fascia on costal area tapering to apex; a broad oblique brown fascia from base of costa to tornus leaving the basal part of inner area white with an oblique crimson striga on it. Hind wing with the costal half white, the inner



Fig. 33.—*Automolis larissa*, ♂. 1.

half crimson deepening on inner area, but the margin itself white ; the patch of androconia brown.

Hab. AMAZONS, Santarem (*Leech*), 1 ♂ type† in Coll. Druce. *Exp.* 38 millim.

b. Antennæ of male serrate and fasciculate.

*a*¹. Fore wing of male with small glandular swelling and tuft of hair at base of costa on underside ; hind wing with the costa fringed with long hair.

1249. *Automolis herois*.

Idalus herois, Schaus, Ent. Am. v. p. 190 (1889) ; Druce, Biol. Centr.-Am., Het. ii. p. 366, pl. 73. f. 20 ; Kirby, Cat. Het. p. 198.

♂. Head and thorax white ; antennæ brownish ; palpi and frons fuscous ; vertex of head with orange spot ; tegulæ and patagia with



Fig. 34.—*Automolis herois*, ♂. $\frac{1}{2}$.

orange spots, the tegulæ tipped with orange, the patagia edged with crimson ; legs with fuscous points ; abdomen crimson above, white below. Fore wing pale yellow, with the inner area and the medial part of costa white ; the basal area with blue-black

streaks, not reaching the base on inner area ; a medial blue-black band, produced outwards on costa and inner margin and with the veins on it whitish. Hind wing with the inner half tinged with crimson.

Hab. MEXICO, Coatepec (*Brooks*), 2 ♂, Godman-Salvin Coll. ; VENEZUELA, Merida ; BRAZIL, Sta. Catherina. *Exp.* 38 millim. Type in Coll. Schaus.

*b*¹. Fore wing of male without glandular swelling at base of costa, or long hair on costa of hind wing.

*a*². (*Sutonocrea*). Hind wing of male with a fold on inner area clothed with rough hair, the tornus strongly lobed.

1250. *Automolis reducta*.

Automolis reducta, Wlk. vii. 1638 (1856).

Cretonotus lobifer, Herr.-Schäff. Aussereur. Schmett. p. 84, f. 503 (1856) ;

Kirby, Cat. Het. p. 171.

Sutonocrea incerta, Druce, Biol. Centr.-Am., Het. ii. p. 357 (nec Wlk.).

♂. Pale yellow ; palpi towards tips and frons fuscous tinged with lilac ; vertex of head, tegulæ, and abdomen tinged with orange ; legs banded with black. Fore wing with greyish-brown costal fascia from base to middle, extending to just below cell at base ; a broad oblique brown band from apex to middle of inner margin.

Ab. 1. Fore wing with the markings much greyer, the subterminal band narrow.—Chiriqui.



Fig. 35.—*Automolis reducta*, ♂. ♀.

Hab. COSTA RICA; PANAMA, Chiriqui (*Trotsch*), 1 ♂ Godman-Salvin Coll.; BRAZIL, Rio Janeiro (*Sir W. Smith*), 1 ♂. *Exp.* 34–40 millim. Type ♀ *lobifer* in Coll. Staudinger.

*b*². Hind wing of male without fold on inner area, or lobe at tornus.

*a*³. Hind wing white, the inner area tinged with crimson ... *crinis*.

*b*³. Hind wing crimson, the costal area white *delicata*.

1251. *Automolis crinis*.

Idalus crinis, Druce, Biol. Centr.-Am., Het. i. p. 89, pl. ix. f. 18 (1884); Kirby, Cat. Het. p. 198.

Head and thorax white; antennæ brownish; palpi above and frons tinged with fuscous; vertex of head orange; tegulæ and patagia with orange spots and tipped with crimson; tibiæ and tarsi with dark points; abdomen crimson above, white below; wings white. Fore wing with black streaks at base extending to the antemedial line, which is excurved below cell and followed by orange patches in and below cell; an oblique pale brownish medial band defined by black lines, expanding at costa and inner margin and crossed by two black streaks below costa, one above vein 2



Fig. 36.—*Automolis crinis*, ♂. ♀.

extending to near termen and two in submedian interspace extending to termen, the last three often interrupted; a short black subterminal streak above vein 5. Hind wing with the inner area tinged with crimson.

Hind wing of ♂ on right side with vein 7 from angle of cell, not coincident with 6.

Hab. MEXICO, Presidio (*Forrer*), 1 ♀ type; GUATEMALA (*Rodriguez*), 1 ♂ 1 ♀, Godman-Salvin Coll. *Exp.* 38 millim.

*1252. *Automolis delicata*.

Idalus delicata, Möschl. Abhandl. Senck. Ges. xiv. p. 29, f. 12 (1886); Kirby, Cat. Het. p. 198.

Head fuscous, the vertex yellow; thorax white mixed with pink, and with yellow patches on patagia and metathorax; abdomen crimson with dorsal series of white points, the extremity and ventral surface white. Fore wing pure white, with black-streaked grey basal patch angled on median nervure and extending down to vein 1, with some pink below it on inner margin; a yellow patch in end of cell and another below its middle; an oblique slightly sinuous narrow medial grey band defined by black lines at the discocellulars, and streaked with black below costa and from cell to inner margin; subterminal black points above veins 5 and 2 and a grey spot with two black streaks on it below vein 2. Hind wing crimson, the costal area white.

Hab. JAMAICA, type ♂ in Coll. Staudinger. *Exp.* 38 millim.

B. Hind wing with vein 3 from angle of cell; 6, 7 stalked; antennæ of male minutely serrate and fasciculate; fore wing with sexual patch below middle of cell on underside.

*1253. *Automolis semiopalina*.

Ischnognatha semiopalina, Feld. Reis. Nov. pl. 102. f. 2 (1874); Druce, Biol. Centr.-Am., Het. i. p. 76; Kirby, Cat. Het. p. 166.

♀. Head orange; frons pinkish; palpi with the 2nd and 3rd joints streaked black and brown; thorax white, pectus orange in front; legs white, streaked with black; abdomen orange, the ventral surface white. Fore wing yellow-brown, the interspaces streaked with black; the apical third pure white with slightly sinuous inner edge. Hind wing dark



Fig. 37.—*Automolis semiopalina*, ♂. 1.

brown; the apex and cilia at tips pure white.

♂. Fore wing with the outer edge of brown area indented beyond lower angle of cell.

Hab. NICARAGUA; CAYENNE, type in Coll. Rothschild. *Exp.* 44 millim.

- C. Hind wing with vein 3 from well before angle of cell; 5 from angle; male with 6, 7 on a long stalk, 8 from near angle of cell; antennæ fasciculate.

*1254. *Automolis flavescens*.

Halesidota flavescens, Wlk. vii. 1705 (1856); Kirby, Cat. Het. p. 211.

Automolis asara, Druce, P. Z. S. 1883, p. 382, pl. 40. f. 7; Kirby, Cat. Het. p. 167.

♂. Pale yellow; antennæ brownish except at base, the tips white; metathorax with a grey patch; legs spotted with brown (abdomen wanting). Fore wing with diffused brownish-grey patch on vein 1 before middle; a large diffused grey patch at lower angle of cell connected with a brownish-grey patch at tornus. Hind wing yellowish white, with some fuscous on termen.



Fig. 38.—*Automolis flavescens*, ♂. 1/2.

Hab. AMAZONS, Pará (Bates), 1 ♂ type† in Mus. Oxon.; ECUADOR, Sarayacu (Buckley), 1 ♂ type† *asara* in Coll. Druce. *Exp.* 30 millim.

SECT. II. Hind wing of male with the costa highly lobed, but without sexual patch.

- A. Antennæ bipectinate; hind wing with veins 6, 7 coincident, 8 from middle of cell.

1255. *Automolis sanguinolenta*.

Bombyx sanguinolenta, Cram. Pap. Exot. iii. pl. 252. A (1780); Kirby, Cat. Het. p. 219.

Phalena justinia, Stoll, Pap. Exot. v. pl. 19. f. 4 (1782).



Fig. 39.—*Automolis sanguinolenta*, ♂. 1/2.

♂. Head, thorax, and abdomen crimson; antennæ brown. Fore wing reddish orange, thickly irrorated and suffused with crimson, leaving patches of the ground-colour on inner and terminal

areas only ; the veins and margins fuscous brown ; a greyish mark above base of vein 1 ; an obscure greyish antemedial line oblique from below costa to vein 1, then bent outwards and joined at inner margin by an oblique line from lower angle of cell ; an elliptical hyaline spot beyond the cell between veins 4, 5 ; cilia blackish. Hind wing deeper crimson.

Hab. SURINAM, 1 ♂. *Exp.* 56 millim.

B. Antennæ of male ciliated ; hind wing with veins 6, 7 stalked, 8 from near end of cell.

***1256. *Automolis lurida*.**

Eucyrtia lurida, Feld. Reis. Nov. pl. 102. f. 7 (1874) ; Kirby, Cat. Het. p. 167.

♂. Pale yellow ; palpi orange-yellow at base, grey-brown at extremity ; frons grey-brown shot with blue ; antennæ brown ; vertex of thorax grey-brown shot with blue ; fore and mid tibiæ and tarsi banded with brown ; abdomen dorsally orange-yellow. Fore wing with triangular grey-brown patch tinged with blue on base of costa extending to vein 1 ; a similar but more rounded patch from middle of costa to vein 1 and vein 4 near termen, and a hemispherical patch from costa before apex to vein 5, the outer edge of basal patch, the inner edge of 2nd patch, and the 2nd and 3rd patches at costa being darker brown ; the termen and inner margin orange-yellow. Hind wing orange-yellow.

Hab. PERU, Upper Amazons, Nari (*Bates*), type† ♂ in Coll. Rothschild. *Exp.* 34 millim.

SECT. III. Hind wing of male with the costa not lobed and without sexual patch below it.

A. Antennæ of male bipectinate, with short branches.

a. Hind wing of male with veins 7, 8 stalked.

a'. (*Machæriptenus*). Hind wing with the tornus lobed ; antennæ with the branches very short and stiff.

***1257. *Automolis ventralis*.**

Machæriptenus ventralis, Schaus, P. Z. S. 1894, p. 229.



Fig. 40.—*Automolis ventralis*, ♂. 1/2.

♂. Head, thorax, and abdomen black-brown ; tegulæ and patagia yellowish white, edged with black ; 1st joint of palpi, coxæ,

and ventral surface of abdomen orange; abdomen bluish above towards extremity; wings white, the veins brownish; fore wing with the base, costa, and termen towards tornus black-brown.

Hab. VENEZUELA, Aroa. *Exp.* 52 millim. Type † in Coll. Schaus.

*b*¹. (*Apiconoma*). Hind wing with the tornus not lobed; antennæ with the branches longer.

*α*². Thorax blackish..... *apicalis*.

*b*². Thorax fulvous..... *lutosa* (♀).

1258. *Automolis apicalis*.

Euchromia apicalis, Wlk. i. 261 (1854); Kirby, Cat. Het. p. 170.

♂. Black-brown; frons and pectus with slight patches of metallic blue; abdomen with metallic blue patch on terminal segment, dorsal bands on the three next segments, and short subdorsal



Fig. 41.—*Automolis apicalis*, ♂. ½.

bands on the next two; a sublateral series of spots. Fore wing with oblique wedge-shaped band from below costa beyond middle to just below vein 2 near termen and varying somewhat in width.

Hab. AMAZONS, Pará (*Bates*), 3 ♂, type. *Exp.* 40 millim.

*1259. *Automolis lutosa*.

Empusa lutosa, Hübn. Samml. ex. Schmett. ii. (1827); Kirby, Cat. Het. p. 210.

Idalus linaza, Dognin, Ann. Soc. Ent. Belge, xlii. p. 345 (1898).

♀. Pale grey-brown with a slight purplish tinge; head and thorax except tips of patagia fulvous; coxæ fulvous; abdomen fulvous, the dorsal surface mostly grey-brown except last two segments. Fore wing with whitish maculate band just beyond the cell from vein 7 to 3, then incurved and obsolescent. Hind wing with the cell and costal area to beyond middle yellow-brown; faint traces of a curved whitish postmedial band.

Hab. PARAGUAY, type † ♀ *linaza* in Coll. Dognin. *Exp.* 60 millim.

Hübner's figure shows a broad diffused white band extending into the cell on both wings; his specimens were probably from Surinam, and may belong to a distinct subspecies from *linaza*.

- b. Hind wing of male with vein 8 from the cell.
*a*¹. (*Automolis*). Hind wing of male with veins 6, 7 coincident.
*a*². Fore wing black-brown.
*a*³. Fore wing with orange patches below end of and beyond the cell *opposita*.
*b*³. Fore wing with curved orange fascia from near base to apex *sphingidea*.
*b*². Fore wing white, with black-streaked brown costal fascia and patch on inner margin *idalia*.
*c*². Fore wing yellow, with crimson-edged fuscous markings *juvenis*.
*d*². Fore wing orange irrorated with crimson and with a large hyaline patch *traili*.

1260. *Automolis opposita*.

Euchromia opposita, Wlk. i. 260 (1854); Kirby, Cat. Het. p. 170.

Euplesia ochrophila, Feld. Reis. Nov. pl. 102. f. 10 (1874).

♂. Head and thorax black-brown; palpi orange at base; orange spots above and below frons, at back of head, and on tegulæ; patagia and legs striped with orange; abdomen orange, the last three segments black with metallic blue bands, the ventral surface banded orange and black. Fore wing dark brown, the veins with fine pale streaks; an oblique yellow patch from lower angle of cell to above vein 1 before middle; an elliptical patch from costa beyond middle to above vein 2 near termen. Hind wing orange-yellow, with dark brown terminal band widest at tornus.

Hab. BRAZIL, 1 ♂ type. *Exp.* 34 millim.

1261. *Automolis sphingidea*.

Glaucopis sphingidea, Perty, Del. Anim. Art. p. 158, pl. 31. f. 12 (1834);

Kirby, Cat. Het. p. 166.

Euplesia vittigera, Feld. Reis. Nov. pl. 102. f. 9 (1874).

♂. Black-brown; tegulæ and patagia with pale orange patches; pectus with patches of metallic blue; mid and hind femora with whitish spots near extremity; abdomen with three metallic blue rings on terminal segments; lateral and sublateral series of blue spots; ventral whitish spots on 2nd and 3rd segments. Fore wing



Fig. 42.—*Automolis sphingidea*, ♂. †.

with broad pale orange band from near base below the cell curving upwards to apical part of costa. Hind wing with the costal half orange.

Hab. AMAZONS, Ega and Pará (Bates), 3 ♂. *Exp.* 33 millim.

1262. *Automolis idalia*, n. sp. (Plate XXXVI. fig. 17.)

♂. Head and thorax white; antennæ brownish; palpi above and frons tinged with fuscous; a spot on vertex of head and edge of tegulæ orange; patagia tipped with crimson; legs with fuscous points; abdomen crimson above, the extremity and ventral surface white. Fore wing white, with broad brownish costal fascia streaked with black; basal and two subbasal blackish points below the cell and some crimson on inner margin; a large subtriangular brownish patch on inner margin just beyond middle, extending to lower angle of cell, crossed by black streaks in the interspaces and with white spot on vein 1; a subterminal black point above vein 5. Hind wing crimson, with the costal area white.

Hab. BRAZIL, Rio Janeiro, 1 ♂ type. *Exp.* 42 millim.

*1263. *Automolis juvenis*.

Amata juvenis, Schaus, J. N. Y. Ent. Soc. iv. p. 135 (1896); Druce, Biol. Centr.-Am., Het. ii. p. 369, pl. 74. f. 5.

♂. Head, tegulæ, and base of patagia bright yellow; palpi crimson above; antennæ and thorax brown, the former white at tips; shoulders and fore coxæ crimson; legs yellow; abdomen crimson, the extremity yellow, the ventral surface white. Fore wing bright yellow, with large fuscous patch on inner area extending below costa from base to middle, then obliquely to tornus, its edges irregular with some crimson on them, also on base of inner margin and as streaks on the veins; a discoidal fuscous point and a series beyond the cell between veins 3 and 7; a postmedial series, of which four towards apex are large, crimson-edged, curved and more or less conjoined; a subterminal series; a series of crimson points on extremity of veins. Hind wing with the costal half yellow, the inner half crimson.

♀. Thorax yellow, marked with crimson and brown; fore wing with the patch traversed by an irregular yellow fascia from base to middle of inner margin; all the spots larger, especially the postmedial series, which are all large and edged with crimson.

Hab. MEXICO, Orizaba, Jalapa. Type † in Coll. Schaus. *Exp.*, ♂ 40, ♀ 50 millim.

1264. *Automolis traili*.

Zatrephes trailii, Butl. Ill. Het. i. p. 52, pl. 17. f. 7 (1877); Kirby, Cat. Het. p. 196.

♂. Head and thorax orange-yellow irrorated with scarlet; abdomen crimson, yellowish white below. Fore wing orange-yellow thickly irrorated with scarlet; oblique dark red antemedial and medial lines; a large silvery hyaline patch beyond the latter between veins 2 and 7 edged with dark red, crossed by the yellowish veins, with somewhat dentate outer edge and narrowing above. Hind wing pale crimson.

Hab. AMAZONS, R. Jurua (*Trail*), 1 ♂ type. *Exp.* 40 millim.

- b*¹. (*Scaptius*). Hind wing with veins 6, 7 stalked.
*a*². Abdomen crimson.
*a*³. Fore wing scarlet suffused with grey *crocos*.
*b*³. Fore wing yellow, the veins streaked with black . *erythronotus*.
*c*³. Fore wing fuscous, the apical third yellow *ditissima*.
*b*². Abdomen orange-red.
*a*³. Fore wing with postmedial series of hyaline yellow patches *grandis*.
*b*³. Fore wing with irregular postmedial hyaline white patch spotted with red *flammanis*.
*c*². Abdomen ochreous slightly tinged with pink *juno*.
*d*². Abdomen fuscous.
*a*³. Abdomen with scarlet basal patch; fore wing fuscous with scarlet band and streak..... *docis*.
*b*³. Abdomen with dull red bands; fore wing fuscous with yellow spot *perflua*.

*1265. **Automolis crocos.**

Bombyx crocos, Cram. Pap. Exot. ii. pl. 126. E (1779); Kirby, Cat. Het. p. 219.

Zatrephes istria, Druce, A. M. N. H. (7) iii. p. 466 (1899).

♂. Head and thorax orange strongly irrorated with scarlet; palpi yellow in front; abdomen crimson; pectus and ventral surface of abdomen yellowish white. Fore wing scarlet suffused with grey-brown; the costa scarlet; some oblique conjoined scarlet and orange spots at base, three inwardly-oblique conjoined antemedial spots from subcostals to vein 1; three medial spots between lower angle of cell and inner margin; an irregular scarlet-edged pale yellow postmedial patch with somewhat tridentate outer edge, diffused towards costa and lobed at vein 2 near termen, and with three conjoined scarlet and orange spots between it and inner margin; a terminal maculate band. Hind wing crimson, with wedge-shaped semihyaline patch beyond the cell between veins 2 and 5; underside whitish.

Hab. SURINAM; CAYENNE, type† ♂ *istria* in Mus. Oxon. *Exp.* 42 millim.

1266. **Automolis erythronotus.**

Trichromia erythronota, Herr.-Schäff. Aussereur. Schmett. p. 72, f. 58 (1853); Kirby, Cat. Het. p. 199.



Fig. 43.—*Automolis erythronotus*, ♂. 1.

♂. Head and thorax pencilled grey and white; proboscis yellow; palpi crimson, white below; a line above frons, antennæ, neck,

edges of tegulæ, and outer edge of patagia yellow; meso- and meta-thorax with crimson points; femora and tibiæ marked with crimson, tarsi ringed with black; abdomen crimson above, the anal tuft and ventral surface white. Fore wing pale yellow, with whitish patch on basal inner area; the veins streaked with blue-black; two streaks in cell, one above vein 2, two in submedian interspace, and one above inner margin; two discocellular lines with bluish grey between them. Hind wing white, the inner area yellowish.

Hab. COLOMBIA; VENEZUELA, type† ♀ in Coll. Staudinger; BRAZIL, 1 ♂ Zeller Coll. *Exp.* 50 millim.

1267. *Automolis ditissima*.

Scaptius ditissimus, Wlk. iii. 643 (1855); Druce, Biol. Centr.-Am., Het. ii. p. 368, pl. 74. f. 2; Kirby, Cat. Het. p. 197.

♀. Head and thorax yellow with scarlet streaks; frons white; abdomen crimson, ventral surface and legs white, fore legs marked with yellow and fuscous. Fore wing fuscous brown, the apical third yellow; slight scarlet streaks on veins except towards costa, in cell and submedian interspace, and on base of inner margin; an obscure scarlet and yellow postmedial oblique dentate line from vein 6 to inner margin, incurved below vein 2; the edge of brown area irregular beyond lower angle of cell; traces of a curved subterminal line. Hind wing dark brown.

Hab. PANAMA; AMAZON, Ega (*Bates*), 1 ♀ type, Sta. Catherina. *Exp.* 34 millim.

*1268. *Automolis grandis*.

Zatrephes grandis, Druce, P. Z. S. 1883, p. 383, pl. 40. f. 5; Kirby, Cat. Het. p. 196.

♂. Orange-red; antennæ with the shaft black above, a white spot in front of basal joint; patagia with white streaks. Fore wing with white spot at base of costa, a subcostal spot above vein 1, and points above subcostal and below median nervures; the veins streaked with black; a somewhat triangular yellowish hyaline spot in end of cell, with an irregular orange patch between it and vein 1 and a small spot on inner margin; a postmedial series of conjoined hyaline yellow patches between veins 8 and 2, the spot above vein 2 on termen, the spots above veins 3 and 5 displaced inwards; an obscure postmedial orange band from below vein 3 to inner margin. Hind wing yellow, tinged with crimson on inner area and on the veins at termen, the area from below costa to submedian fold semihyaline.

Hab. ECUADOR, Intaj (*Buckley*), 1 ♂ type† in Coll. Druce. *Exp.* 58 millim.

1269. *Automolis flammans*, n. sp. (Plate XXXVI. fig. 9.)

♂. Fiery orange-red; palpi with the 3rd joint black; antennæ with the basal joint white and red; tegulæ with black points;

patagia with white band at base and spot at extremity; mesothorax with white patches, metathorax spotted with white and black; legs with white and black bands at the joints; abdomen with dorsal, sublateral, and ventral series of black points. Fore wing with the costal area to near apex and the inner area to middle fiery red; a white spot at base of costa, two antemedial spots above vein 1, and one on inner margin, followed by three lunulate spots; elongate antemedial and medial spots on costa, the former with a point below it in the cell; an irregular hooked mark on costa beyond middle; a large postmedial hyaline patch with extremely irregular outline extending from below costa to below vein 2 and with some small round red spots on it on the veins; a terminal series of white spots in the interspaces. Hind wing semihyaline white, with the cell and inner area thinly clothed with crimson-red hair.

Hab. COLOMBIA, 1 ♂ type; BRAZIL, Sta. Catherina. *Exp.* 60 millim.

1270. *Automolis juno*.

Scaptius juno, Schaus, P. Z. S. 1892, p. 279; id. Am. Lep. pl. ii. f. 3.

♂. Head, thorax, and abdomen ochreous yellow; palpi at sides and fore legs above crimson; abdomen dorsally tinged with pink. Fore wing ochreous yellow suffused with grey-brown; a subbasal white spot below the cell; an antemedial yellow band from below costa to inner margin edged with crimson and traversed by a waved crimson line; a slight crimson discoidal spot; a curved series of crimson-edged yellow spots from vein 3 to inner margin; three hyaline yellow lunulate postmedial spots between veins 6 and 3, with a curved series of five similar spots beyond them; a terminal series of yellow spots from apex to below vein 2. Hind wing pale crimson, with diffused yellow streaks in cell, submedian interspace, and inner area; cilia yellow.

♀. Fore wing with small hyaline postmedial spot above vein 6 and no curved series beyond it; the terminal series of spots reduced in size except those above veins 2 and 6.

Hab. CAYENNE, 1 ♀; BRAZIL, Castro Paraña, 1 ♂, Petropolis, 1 ♀ type† in Coll. Schaus. *Exp.*, ♂ 34, ♀ 46 millim.

*1271. *Automolis docis*.

Automolis docis, Hübn. Zutr. iv. 3, p. 32, and iii. ff. 537, 538.

Automolis basalis, Wlk. vii. 1635 (1856); Kirby, Cat. Hel. p. 168.

♂. Dark brown; patches of metallic blue on frons, vertex of head, thorax, pectus, and coxæ; a semicircular scarlet mark on tegulæ and patagia; two red spots on vertex of thorax; abdomen with large scarlet dorsal patch on basal segments; subdorsal and lateral series of metallic blue spots; ventral surface with some metallic blue on 1st and terminal segments; the medial segments

scarlet. Fore wing with oblique scarlet line from inner margin near base to upper angle of cell, where it emits a line along vein 6 to termen, then is angled to costa. Hind wing with patches of scarlet in cell and on basal inner area.

Hab. CAYENNE; AMAZONS. *Exp.* 44 millim. Type† *basalis*, Amazons (*Bates*), in Mus. Oxon.

1272. *Automolis perflua*. (Plate XXXVI. fig. 15.)

Halisidota perflua, Wlk. Char. Lep. Het. p. 13 (1869); Kirby, Cat. Het. p. 210.

♂. Dark red-brown, tegulæ and patagia mixed with yellow; abdomen with obscure reddish bands on each segment. Fore wing with yellow patch on base of costal area with brown points on it; a spot on middle of inner margin, some points in and beyond end of cell and two brown discoidal points; traces of a curved series of postmedial yellow points; yellow subterminal patches below apex and between veins 2 and 5, with small brown spots on them; cilia with yellow points. Hind wing yellow, the veins tinged with red.

♀ without the yellow points near end of cell of fore wing; hind wing rather browner.

Hab. BRAZIL, Rio Janeiro, 1 ♂, 1 ♀ type. *Exp.*, ♂ 40, ♀ 46 millim.

B. Antennæ of male serrate and fasciculate.

a. Hind wing of ♂ with vein 8 stalked with 7, of ♀ with 6, 7, 8 stalked.

a¹. Fore wing black with white streaks *strigosa* (♀).

b¹. Fore wing brown, with slight pale streaks on the veins *separata* (♀).

c¹. Fore wing brown, with broad oblique orange fascia. *fulgurata* (♀).

d¹. Fore wing brown, with broad oblique orange band and oblique wedge-shaped postmedial patch..... *chrysomelas*.

e¹. Fore wing brown, with white subapical spot and very oblique orange band.. *albinaculifera*.

f¹. Fore wing yellow with rufous markings *semitrosea*.

g¹. Fore wing yellow with grey markings, and crimson streak at tornus..... *citrina*.

h¹. Fore wing yellow, with black spot on inner margin. *superba*.

i¹. Fore wing uniform yellowish white *elissa* (♀).

1273. *Automolis strigosa*.

Euchromia strigosa, Wlk. i. 273 (1854); Butl. Ill. Het. i. p. 47, pl. 9. f. 12; Kirby, Cat. Het. p. 171.

Eucyrtia subulifera, Feld. Reis. Nov. pl. 102. f. 3 (1874); Kirby, Cat. Het. p. 171.

♀. Black; palpi in front, frons, and vertex of head with white points; tegulæ with white lateral points, patagia with large spots, metathorax with point; fore coxæ orange, the femora striped with white; mid and hind femora with white spots at base and extremity; abdomen with subdorsal orange patches on 3rd to 6th

segments, the ventral surface with orange bands. Fore wing with three white streaks below base of costa and another in lower end of cell; a wedge-shaped white patch with its apex beyond upper angle of cell and base near termen; streaks on veins 3 and 2 and in submedian fold not quite reaching termen and a wedge-shaped streak on vein 1. Hind wing with whitish patch below and beyond cell, forming three elongate marks on underside.

Hab. PANAMA, type † ♀ *subulifera* in Coll. Rothschild; BRAZIL, Rio Janeiro, 1 ♀ type. *Exp.* 46 millim.

1274. *Automolis separata*. (Plate XXXVI. fig. 5.)

Apyre separata, Wlk. ii. 491 (1854); Kirby, Cat. Het. p. 171.

♀. Head orange; palpi with lateral black spots on 1st and 2nd joints; antennæ brown, white above; thorax brown, slightly streaked with grey; tegulæ orange in front, fore coxæ orange, legs striped with white; abdomen black, the 2nd, 3rd, and 4th segments orange above. Fore wing brown, the veins streaked with grey. Hind wing fuscous black, with large orange medial patch extending from middle of cell to inner margin and termen near tornus.

Hab. AMAZONS, Ega (*Bates*), 1 ♀ type. *Exp.* 40 millim.

1275. *Automolis fulgurata*.

Automolis fulgurata, Butl. Journ. Linn. Soc., Zool. xii. p. 420 (1876); id. Ill. Lep. Het. B. M. i. p. 46, pl. 18. f. 5; Kirby, Cat. Het. p. 167.

♀. Black-brown; frons, vertex of head, and coxæ behind with patches of metallic blue; a slight orange bar above frons, two spots above eyes, and points on fore coxæ in front; broad orange stripes on tegulæ and patagia; abdomen black, with dorsal series of metallic blue spots on last four segments and lateral series, the 2nd and 3rd segments with sublateral orange spots. Fore wing with broad oblique orange fascia from base of inner margin to vein 6, along which it runs to a point near termen; the veins with slight pale streaks. Hind wing with orange fascia from base to near apex, extending from subcostal nervure to below the cell, its lower edge curved.

Hab. BRAZIL, Espiritu Santo, 1 ♀ type. *Exp.* 48 millim.

1276. *Automolis chrysomelas*.

Automolis chrysomelas, Wlk. vii. 1636 (1856); Kirby, Cat. Het. p. 168. *Eucyrt. geometrica*, Feld. Reis. Nov. pl. 102. f. 6 (1874); Kirby, Cat. Het. p. 167.

Black; frons metallic blue, two blue points between antennæ, back of head with orange spots; thorax orange above with dorsal black stripe; abdomen with dorsal metallic blue spots on terminal segments and a lateral series, sublateral white spots on first three segments. Fore wing with the veins greyish; a broad oblique orange fascia from base of inner margin to subcostal nervure near end of cell and vein 4 near tornus; a large triangular subapical

patch from just below costa to below vein 5 near termen. Hind wing with the costal area orange, extending to median nervure and leaving a black streak on costa beyond middle.

Hab. CAYENNE, type † ♂ *geometrica* in Coll. Rothschild; BRAZIL, type † ♀ in Mus. Oxon., Rio Grande do Sul, 1 ♀. *Eap.* 42 millim. Type in Mus. Oxon.

1277. *Automolis albimaculifera*, n. sp. (Plate XXXVI. fig. 18.)

♂. Head black-brown; palpi yellowish white in front; frons with blue patch, an orange bar above it and two spots above eyes; thorax orange with dorsal brown stripe; pectus and legs black, coxæ with blue patches behind, fore coxæ with yellowish patch in front, legs with yellowish stripes; abdomen black, the four terminal segments with blue dorsal spots and a lateral series, sublateral orange spots on first three segments, which have paired ventral yellowish spots followed by bands on next three segments. Fore wing brown, with yellowish-white subapical spot; a very oblique orange band from vein 6 to inner margin near base; the termen and cilia grey-brown, narrowing to apex. Hind wing orange-yellow; the tornal area brown from termen at vein 5 to inner margin before middle, leaving the cilia orange.

Hab. AMAZONS, Manicoré, 1 ♂ type. *Eap.* 38 millim.

1278. *Automolis semirosea*. (Plate XXXVI. fig. 3.)

Automolis semirosea, Wlk. xxxi. 103 (1864); Kirby, Cat. Het. p. 170.

♂. Yellow; palpi orange-red except in front; thorax suffused with rufous; abdomen orange-red above. Fore wing with the basal area, the costa, and inner margin suffused with rufous; a broad oblique rather ill-defined band from costa just beyond middle to tornus; slight submarginal and marginal series of rufous spots on the veins conjoined at middle. Hind wing with the inner area orange-red, the costa and termen suffused with pale reddish.

Hab. AMAZONS, Ega (Bates), 1 ♂ type. *Eap.* 30 millim.

1279. *Automolis citrina*.

Idalus citrina, Druce, P. Z. S. 1890, p. 495, pl. 42. f. 4; Kirby, Cat. Het. p. 198.



Fig. 44.—*Automolis citrina*, ♂. 1.

Head and thorax orange-yellow; antennæ and palpi brownish; tegulæ and edges of patagia edged with crimson; neck and fore

coxæ crimson ; legs tinged with brown ; abdomen crimson above, the extremity and ventral surface white. Fore wing orange-yellow the basal area with oblique grey patch and some crimson on inner margin ; the discocellulars whitish more or less outlined with grey ; a slight grey and whitish fascia on costa beyond middle ; a sub-triangular grey patch on outer half of inner margin extending up to vein 3, crossed by white streaks, and with a crimson streak above inner margin ; a subterminal grey spot above vein 5. Hind wing white.

Hab. VENEZUELA, Merida ; BRAZIL, São Paulo (*Jones*), 1 ♂, 1 ♀. *Exp.* 38 millim. Type in Coll. Druce.

1280. *Automolis superba*.

Automolis superba, Druce, P. Z. S. 1883, p. 382, pl. 40. f. 8, ♀ ; Kirby, Cat. Het. p. 167.

Automolis salma, Druce, A. M. N. H. (6) xviii. p. 36 (1896), ♂ ; id. Biol. Centr.-Am., Het. ii. p. 355, pl. 72. f. 23.

♂. Bright sulphur-yellow ; palpi, frons, and antennæ black ; frons with blue spot ; pectus and legs black, the coxæ with metallic blue patches ; abdomen orange, with black and blue dorsal patch on last two segments, the ventral surface with black and blue patches on 1st segment followed by a spot on next segment. Fore wing with black spot on inner margin beyond middle.

♀. Abdomen with the black and blue patch extending to 2nd segment, the ventral patches followed by two spots. Fore wing with apical black spot. Hind wing with broad terminal black band narrowing to a point at apex ; the inner area tinged with orange.

Hab. PANAMA, Chiriqui, type ♂ *salma* in Coll. Staudinger ; COLOMBIA (*Kalbreyer*), 1 ♂ ; ECUADOR, Sarayacu (*Buckley*), 1 ♀ type ♂ in Coll. Druce. *Exp.* 38 millim.

*1281. *Automolis elissa*.

Automolis elissa, Schaus, P. Z. S. 1892, p. 277, id. Am. Lep. p. 7, pl. 1. f. 21.

♀. Head orange ; palpi black, orange at base ; antennæ black ; thorax yellowish white ; pectus and legs black, fore coxæ orange ; abdomen orange, the first four and last two segments dorsally black, the intermediate two segments with black dorsal and lateral spots ; wings yellowish white.

Hab. VENEZUELA, Valencia ; BRAZIL, Rio Janeiro. *Exp.* 56 millim. Type ♂ in Coll. Schaus.

b. Hind wing of male with vein 8 from the cell.

a¹. (*Ormetica*). Hind wing of male with the tornus produced to a slight lobe, the inner area with a fold containing a tuft of hair.

a². Fore wing with the ground-colour orange.

a³. Fore wing with black spots *tripunctata*.

b³. Fore wing without black spots *latania*.

- b*². Fore wing with the ground-colour black-brown.
*a*³. Fore wing with oblique orange fascia across apical area.
*a*⁴. Fore wing with the oblique orange fascia reaching termen *packardi*.
*b*⁴. Fore wing with the oblique orange median fascia hardly reaching beyond the cell *sypilus*.
*b*³. Fore wing without apical fascia.
*a*⁴. Abdomen with lateral orange stripes *latania*.
*b*⁴. Abdomen without lateral orange stripes.
*a*⁵. Fore wing with the costa orange to beyond middle *melea*.
*b*⁵. Fore wing without orange fascia on costa *pratti*.

*1282. *Automolis tripunctata*.

Sutonocrea tripunctata, Druce, Biol. Centr.-Am., Het. i. p. 79, pl. 9. f. 2; Kirby, Cat. Het. p. 171.

♂. Orange; antennæ, palpi, and frons fuscous, the last with a blue patch; mesothorax with fuscous patch; legs banded with black and the tarsi with white. Fore wing with curved triangular leaden fuscous patch on basal area extending to above inner margin just before middle; a round discoidal spot; an elliptical spot between veins 3 and 4; a round spot just above tornus, and an oblique slightly curved streak across apical area.

Hab. PANAMA (*Ribbe*), 1 ♂ type† in Coll. Staudinger. *Exp.* 40 millim.

1283. *Automolis latania*.

Automolis latania, Druce, P. Z. S. 1890, p. 495, pl. 42. f. 2; Kirby, Cat. Het. p. 167.

♂. Head black; frons with blue patch, an orange band above it and two spots above the eyes; thorax orange with dorsal black stripe; metathorax with blue spot; pectus and legs black, the latter striped with yellowish white, the coxæ with blue patches; abdomen black, the last four segments with dorsal blue spots and a lateral series, subdorsal orange patches on second segment, sub-lateral orange spots on first three segments, followed by bands on next three segments. Fore wing orange-fulvous; a black point at base; the costa towards apex, the inner margin from just before middle, a terminal band expanding at apex, and the cilia black-brown. Hind wing orange-yellow, the tornal area from just below apex to inner margin near base black, with irregular upper edge; vein 8 almost obsolete.

Hab. COLOMBIA, type† in Coll. Druce; VENEZUELA, Merida (*Bricenno*), 1 ♂. *Exp.* 42 millim.

1284. *Automolis packardi*. (Plate XXXVI. fig. 19.)

Euchromia sypilus, Wlk. i. 260 (1854), nec Cram.

Automolis packardi, Butl. Journ. Linn. Soc., Zool. xii. p. 420 (1876); Kirby, Cat. Het. p. 167.

♂. Black-brown; frons with metallic blue patch; tegulæ, upper edge of patagia, metathorax, and shoulders with orange stripes;

fore tibiæ and the tarsi orange; fore coxæ with blue patches behind; abdomen with dorsal blue spots on last three segments, a lateral series of spots and sublateral yellow spots on 2nd and 3rd segments. Fore wing with oblique orange fascia from vein 1 near base to lower angle of cell, then curved to near termen above vein 4; an oblique fascia across apical area from below costa to termen; the costa, subcostal nervure, and cilia paler brown. Hind wing with the costal area down to median nervure and vein 5 orange, with a semihyaline streak below the cell.

Hab. AMAZONS, Pará, 1 ♂ type, Ega (*Bates*) 1 ♂. *Exp.* 40 millim.

*1285. *Automolis sypilus*.

Sphinx sypilus, Cram. Pap. Exot. ii. pl. 99. A (1777); Kirby, Cat. Het. p. 167.

♀. Black-brown; vertex of head with metallic blue spot; tegulæ orange edged with brown; patagia orange; abdomen with orange bands on first three segments, the terminal segment with dorsal and lateral series of metallic blue spots. Fore wing with oblique slightly curved orange fascia from below the cell near base to above vein 5 just beyond the cell; an elongate subapical spot above vein 6 not reaching termen. Hind wing with orange fascia on costal area extending to inner margin at base and narrowing to apex.

Hab. SURINAM. *Exp.* 46 millim. This species is unknown to me; it may possibly be the female of *A. packardi*, or, as it seems to have been figured by Cramer from a drawing, be a reproduction from a bad figure of a rubbed specimen.

1286. *Automolis tæniata*.

Chelonia tæniata, Guer. Icon. R. Anim., Ins. p. 514 (1844); Druce, Biol. Centr.-Am., Het. ii. p. 354; Kirby, Cat. Het. p. 167.

Ormetica sphingiformis, Clem. Proc. Acad. Phil. 1860, p. 545; Kirby, Cat. Het. p. 168.

Automolis imitata, Druce, Biol. Centr.-Am., Het. i. p. 75, pl. 8. f. 27 (1884).

Black; head orange-yellow; palpi and antennæ black, the former yellowish in front, a blue bar across frons, a black and blue stripe



Fig. 45.—*Automolis tæniata*, ♂. 1.

on vertex of head; tegulæ, patagia, and sides of thorax with broad yellow stripes; fore coxæ with yellow spots; femora with blue and yellowish stripes, hind tibiæ and tarsi with slight yellowish streaks; abdomen with broad lateral and ventral orange-yellow stripes, not quite reaching extremity, slight dorsal blue bands on terminal

segments. Fore wing with the basal half of costal edge yellow; a broad yellow fascia from base of inner margin to vein 6, where it narrows and is bent outwards to termen. Hind wing with yellow fascia on costal area extending to below the cell, its lower edge curved.

Hab. MEXICO, Cordoba (*Kumeli*), 1 ♂ 1 ♀, type *imitata*, Jalapa (*Hoega, Trujillo*), 1 ♂ 2 ♀, Coatepec (*Brooks*), 1 ♀; GUATEMALA (*Rodriguez, Champion*), 3 ♂; COSTA RICA (*Underwood*), 2 ♂, Godman-Salvin Coll. *Exp.* 42-48 millim.

***1287. *Automolis melea*. (Plate XLIII. fig. 1.)**

Automolis melea, Druce, A. M. N. H. (7) vi. p. 66 (1900).

♂. Black; palpi yellow at base; frons and vertex of head with metallic blue patches; an orange bar above frons and spots on back of head; tegulæ, patagia, and metathorax with broad orange stripes; metathorax and coxæ with metallic blue patches, fore coxæ with orange spots in front, the femora and fore tibiæ with whitish stripes; abdomen with subdorsal orange spots on 2nd segment, the last four segments with metallic blue spots and a lateral series, the ventral surface with paired orange spots except at extremity, the segments edged with blue. Fore wing with orange fascia on costa to beyond middle; an oblique orange band from below vein 7 near termen to inner margin near base, rounded above and obliquely truncate towards base; termen greyish. Hind wing with the costal area orange from near base to near termen, extending at middle to below the cell, and with a black patch on costa at middle.

♀. Abdomen without the subdorsal orange spots. Fore wing with the oblique band bent outwards towards termen; hind wing with the black patch on costa much reduced.

Hab. VENEZUELA, Merida, type† ♂ ♀ in Coll. Druce. *Exp.*, ♂ 42, ♀ 50 millim.

***1288. *Automolis pratti*. (Plate XLIII. fig. 16.)**

Automolis pratti, Druce, A. M. N. H. (7) vi. p. 66 (1900).

♂. Black; sides of frons, vertex of head, metathorax, and legs with metallic blue patches; back of head with orange spots; tegulæ, patagia, and metathorax with broad orange stripes; abdomen with dorsal metallic blue spots on terminal three segments and a lateral series, the ventral surface with orange bands except at base and extremity, the segments edged with blue. Fore wing with very broad oblique orange band from below apex to inner margin near base extending into end of cell, rounded above and somewhat pointed outwardly below apex and obliquely truncate towards base; the termen greyish. Hind wing with orange patch on costa, not quite reaching base, extending to below the cell at middle, then narrowing to a point before apex.

Hab. COLOMBIA (*Pratt*), type† ♂ in Coll. Druce. *Exp.* 42 millim.

*b*¹. Hind wing of male without fold and tuft on inner area.

*a*². (*Ischnognatha*). Palpi with the third joint long and naked; hind wing of male with veins 6, 7 stalked.

1289. *Automolis vitrea*.

Bombyx vitrea, Stoll, Pap. Exot. iii. pl. 276. C (1780); Druce, Biol. Centr.-Am., Het. i. p. 79; Kirby, Cat. Het. p. 171.

Fulvous orange; palpi black, with some white spots at end of 1st and 2nd joints; fuscous bands above frons and between antennæ; tegulæ and patagia with pale and fuscous bands, metathorax with pale patches; abdomen with dorsal series of white points, underside of thorax and abdomen whitish. Fore wing with the costa whitish; the inner area from below costa at base to lower angle of cell and termen at vein 3 pale fulvous, leaving the upper angle of cell and



Fig. 46.—*Automolis vitrea*, ♂. 1.

the apical area semihyaline white; a subbasal angled series of black points followed by white marks; black streaks on and between the veins on fulvous area; a blue streak edged with black on end of median nervure; two pinkish streaks followed by white spots below basal part of vein 2; a black-edged triangular mark at lower angle of cell; a subterminal series of black points often obsolete towards apex. Hind wing pale pinkish, the inner area orange.

Hab. MEXICO, Jalapa (*Trujillo*); GUATEMALA (*Champion*); HONDURAS (*Blancaneaux*); PANAMA (*Champion*), Godman-Salvin Coll.; RIO JANEIRO. *Exp.* 38–58 millim.

*b*². Palpi with the 3rd joint short.

*a*³. Hind wing of male with veins 6, 7 coincident.

*a*⁴. Fore wing with black streaks in all the interspaces *lineosa*.

*b*⁴. Fore wing with dark streaks on the veins and in interspaces of cell and inner area only *tybris*.

*a*⁴. Fore wing without dark streaks on inner area.

*a*⁵. Abdomen with the terminal half black.

*a*⁶. Fore wing orange.

*a*⁷. Fore wing with four black streaks on basal costal area, the apical patch with two white spots *zenzeroides*.

*b*⁷. Fore wing without black streaks at base, the apical patch with one white spot.

*a*⁸. Fore wing with the apical patch large, the terminal band wide *contraria*.

white, the latter semihyaline; the veins of outer area dark; a dentate submarginal line with series of spots beyond it, the one above vein 5 large. Hind wing with the costal area semihyaline, the inner area orange; an irregular terminal brown band from apex to below vein 2.

Hab. PANAMA, Chiriqui, 1 ♂ 1 ♀ (*Champion*), Godman-Salvin Coll.; BRAZIL, Zeller Coll., Mquita. *Exp.* 44–48 millim.

1292. *Automolis zenzeroides*.

Automolis zenzeroides, Butl. Ill. Het. i. p. 46, pl. 16. f. 8 (1877); Kirby, Cat. Het. p. 167.

♂. Orange-yellow; abdomen with the first two segments yellow, the others black with dorsal series of metallic blue spots on the three medial ones, some lateral blue spots; the ventral surface black with white bands. Fore wing with four black streaks on basal costal area; a large apical black patch, with two white spots on it and connected by a short terminal band with a spot between veins 3 and 4. Hind wing with terminal black band broad at tornus, narrowing to a point at apex.

Hab. AMAZONS, Rio Purus (*Trail*), 1 ♂ type. *Exp.* 32 millim.

1293. *Automolis contraria*.

Euchromia contraria, Wlk. i. 259 (1854); Butl. Ill. Het. i. p. 45, pl. 9. f. 9; Kirby, Cat. Het. p. 167.

♂. Head black; palpi white in front; two white spots above frons and two at back of head; frons and vertex of head with patches of metallic blue; thorax orange-fulvous, with black dorsal stripe; legs striped black and white; abdomen black, the 1st segment fulvous-orange; a lateral series of metallic blue spots, the last three segments with dorsal spots; the ventral surface black with paired whitish lunules. Fore wing orange-fulvous, with large apical black patch with elliptical oblique white patch on it; a terminal grey-black band sinuous in submedian interspace. Hind wing yellow, with black patch on tornal area narrowing to points below apex and near base of inner margin.

Hab. AMAZONS, Ega (*Bates*), 1 ♂ type. *Exp.* 40 millim.

*1294. *Automolis sicilia*.

Automolis sicilia, Druce, Biol. Centr.-Am., Het. i. p. 75 (1884); Kirby, Cat. Het. p. 167.

Automolis parma, Schaus, Ent. Am. v. p. 90 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 355, pl. 72. f. 17; Kirby, Cat. Het. p. 167.

Head and thorax orange; frons with black and blue patch; antennæ black; palpi and legs ochreous striped with black; abdomen black, the 1st segment orange; a lateral series of metallic blue spots and dorsal spots on terminal segments; a ventral series of orange bands. Fore wing orange; a small apical fuscous patch

with oblique whitish bar across it; a narrow terminal fuscous band. Hind wing orange-yellow; the terminal area black from just below apex, widening to inner margin, on which it extends to middle, and with rather irregular inner edge.

Hab. MEXICO, Vera Cruz, type† ♂ *parma* in Coll. Schaus; PANAMA, Chiriqui, type† ♀ in Coll. Staudinger. *Exp.*, ♂ 36, ♀ 42 millim.

*1295. *Automolis tegyra*.

Automolis tegyra, Druce, A. M. N. H. (6) xviii. p. 36 (1896); Biol. Centr.-Am., Het. ii. p. 355, pl. 72. f. 24.

♂. Head and thorax black; tegulæ chrome-yellow; abdomen orange; the last two segments black and metallic blue. Fore wing black, with metallic blue point at base; a broad oblique chrome-yellow antemedial band; an incurved band from costa beyond middle to termen at veins 2, 3. Hind wing with the basal half pale yellow becoming orange towards inner margin, the terminal half bluish black.

Fore wing on left side with veins 2, 3 connected by an oblique cross-vein.

Hab. PANAMA, Chiriqui, 1 ♂ type† in Coll. Staudinger. *Exp.* 38 millim.

*1296. *Automolis buckleyi*.

Zatrephes buckleyi, Druce, P. Z. S. 1883, p. 383, pl. 40. f. 9; Kirby, Cat. Het. p. 196.

♂. Orange-red; palpi striped black and grey; antennæ black; tegulæ edged with white on inner side; legs striped black and grey. Fore wing with oblique triangular yellow patch on base of costa, extending down to vein 1, with black and white lines on its edges which do not quite meet at apex; quadrate ante- and postmedial yellow patches, with black and white lines on their inner and outer sides; a black and white line beyond the cell between veins 7 and 4, with a wedge-shaped grey patch beyond it extending almost to termen, the veins on it streaked with black; a small subterminal black spot above vein 1. Hind wing pinkish and semihyaline except the area towards tornus.

Hab. ECUADOR, Sarayacu (*Buckley*), type† in Coll. Druce. *Exp.* 46 millim.

b³. (*Arara*). Hind wing of male with veins 6, 7 stalked.

α⁴. Fore wing scarlet, with three black-edged yellow triangular patches on costa *garleppi*.

β⁴. Fore wing flesh-colour, with two purplish patches with black streaks on them *vittipes*.

α⁴. Fore wing orange-yellow, with fuscous fascia below costa and terminal band from vein 5 to inner margin *nabdalsa* (♀).

α⁴. Fore wing black, with oblique orange band from below apex to above inner margin near base... *collateralis*.

- c*⁴. Fore wing brown or fuscous and yellow.
*a*⁵. Patagia with pink patches.
*a*⁶. Fore wing without medial and apical brown patches on costa..... *diluta*.
*b*⁶. Fore wing with medial and apical brown patches on costa..... *rectiradiata*.
*b*⁵. Patagia fuscous streaked with white..... *rutila*.
*c*⁵. Patagia black *angulosa*.
*f*¹. Fore wing yellowish white, with brown fascia on inner margin and postmedial band..... *unifascia*.

1297. *Automolis garleppi*. (Plate XXXVI. fig. 12.)

Zatrephes garleppi, Druce, A. M. N. H. (7) i. p. 148 (1898).

Gorgonidia mirabilior, Dyar, J. N. Y. Ent. Soc. vi. p. 37 (1898).

♂. Vermilion; palpi and frons black with white streaks; antennæ black; legs black striped with white; tegulæ with some white scales on edges; metathorax with pair of white points. Fore wing with basal, medial, and postmedial truncate triangular yellow costal patches, with black lines just inside their inner and outer edges; the last with a short black streak beyond it on costa; a black line beyond the cell between veins 7 and 3, forming the base of a large fuscous wedge-shaped mark extending to termen, the veins on it being streaked with black; a large somewhat elliptical fuscous patch near tornus. Hind wing with the discal area semihyaline.

Hab. PERU, Piches and Perene Yc; BOLIVIA, Songo (*Garlepp*), 2 ♂. *Exp.* 41 millim. Type † in Coll. Druce.

1298. *Automolis vittipes*.

Arara vittipes, Wlk. iii. 642 (1855); Druce, Biol. Centr.-Am., Het. ii. p. 368, pl. 74. f. 4; Kirby, Cat. Het. p. 170.

♂. Head and thorax flesh-colour slightly tinged with brown; palpi black, white in front; legs white, the femora and tibiæ striped with black; abdomen strongly tinged with crimson dorsally, flesh-coloured below. Fore wing flesh-colour; a purplish triangular patch from base to middle of costa, its apex on inner margin with two black streaks on it below costa, two in cell, two below cell and one above inner margin, towards which they become short; the area between veins 2 and 5 purplish, with black streaks in the interspaces, a streak below vein 2, and a spot on termen at submedian fold. Hind wing pale yellowish, a brown mark in cell, the inner area tinged with crimson.

♀. Hind wing wholly crimson.

Hab. PANAMA, Chiriqui; AMAZONS, Santarem (*Bates*), 1 ♂ 1 ♀ type. *Exp.*, ♂ 36, ♀ 40 millim.

*1299. *Automolis nabdalsa*.

Automolis nabdalsa, Schaus, Ent. Am. v. p. 90 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 355, pl. 72. f. 21; Kirby, Cat. Het. p. 167.

♀. Orange-yellow; palpi black above; frons and vertex of head

with black and blue spots; antennæ black; thorax with fuscous patch; legs striped with black; fore coxæ with blue patches; abdomen with dorsal black spots on first three segments, and lateral and sublateral black and blue spots; the terminal three segments black above, with dorsal and lateral blue spots. Fore wing with some fuscous streaks on costal area; a fuscous fascia from base, where it extends below the cell, then through the cell to near termen, where it becomes bifid above veins 6 and 7; a terminal band formed by fasciæ in the interspaces from vein 5 to inner margin, towards which they increase in length and on inner margin extending to before middle. Hind wing with terminal black band from below apex to near tornus, expanding below vein 3 and running up vein 1 nearly to base.

Hab. MEXICO, Vera Cruz, type † ♀ in Coll. Schaus. *Exp.* 44 millim.

1300. *Automolis collateralis*, n. sp. (Plate XXXVI. fig. 6.)

♂. Black; frons, vertex of head, thorax, and legs with patches of metallic blue; back of head with orange spots; tegulæ and patagia with broad orange fasciæ; fore coxæ with orange spots; abdomen with metallic blue dorsal, subdorsal, and sublateral spots, the medial segments with ventral orange bands. Fore wing with very oblique orange band from above vein 6 to just above inner margin near base; the termen and cilia dull brownish. Hind wing with orange patch on costal area, extending to just below the cell and narrowing to a point at apex.

Hab. COLOMBIA, 1 ♂ type. *Exp.* 42 millim.

1301. *Automolis diluta*.

Cratoplastis diluta, Feld. Reis. Nov. pl. 102. f. 8 (1874); Druce, Biol. Centr.-Am., Het. i. p. 76; Kirby, Cat. Het. p. 166.

♂. Palpi and frons brown, the latter tinged with bluish; antennæ brown; vertex of head and tegulæ yellow, the latter with brown medial patch; patagia yellow at base, pink at middle, dark brown at tips; thorax pinkish, with brown patch on mesothorax and dark brown patch on metathorax; legs dark brown, the fore coxæ pink; abdomen dark brown with bluish tinge, lateral pink



Fig. 48.—*Automolis diluta*, ♂. 1.

patches at base, the ventral surface ochreous brown except at extremity. Fore wing with dark brown basal patch with oblique outer edge; the costal area pale lemon-yellow, the rest of wing pale

brown with a greyish tinge. Hind wing greyish brown, the costal half of basal area pale yellow.

Hab. MEXICO, Vera Cruz; PANAMA, Bugaba (*Champion*), 1 ♂, Godman-Salvin Coll.; AMAZONS, Pará (*Bates*). *Exp.* 46 millim.

1302. *Automolis rectiradia*, n. sp. (Plate XXXVI. fig. 13.)

Palpi towards extremity and frons brown, the latter with a bluish tinge; antennæ brown; vertex of head yellow; tegulæ yellow; patagia yellow at base, pink at middle, and dark brown at tips; meso- and metathorax with dark brown patches; legs dark brown, the coxæ yellow; abdomen dark brown, with lateral yellowish patches at base, the first four segments ventrally yellow. Fore wing with dark brown basal patch with curved outer edge, followed by an ochreous band emitting an oblique fascia to termen above middle; large dark brown patches on middle of costa and at apex, with a somewhat triangular ochreous patch between them; the area towards tornus below the fascia and beyond the antemedial band dark brown. Hind wing with the basal half ochreous, strongly angled outwards beyond lower angle of cell; the terminal half dark brown.

Hab. SURINAM, 1 ♂; BRAZIL, Upper Amazons, Olivencas (*Michelli*), 1 ♀ type. *Exp.* 46 millim.

1303. *Automolis rutila*.

Sphinx rutilus, Stoll, Pap. Exot. iv. pl. 382. B (1781); Druce, Biol. Centr.-Am., Het. ii. p. 355; Kirby, Cat. Het. p. 160.

Ischnognatha godmani, Druce, Biol. Centr.-Am., Het. i. p. 76, pl. 9. f. 1 (1884), ♀; Kirby, Cat. Het. p. 166.

Ischnognatha striata, Druce, A. M. N. H. (6) xv. p. 45 (1895), ♂.

♂. Head orange; palpi fuscous, white in front; frons with fuscous medial stripe; vertex of head with two black points; antennæ fuscous; thorax fuscous; tegulæ orange at sides, the tegulæ and patagia streaked with white; legs fuscous, streaked with white; abdomen orange, with large triangular black dorsal patch on first five segments, followed by spots, the terminal segment black; a lateral black patch at base followed by spots. Fore wing fuscous; the veins streaked with white; an oblique postmedial orange band from costa beyond middle to termen above tornus, towards which it slightly narrows. Hind wing black, with large orange costal patch extending to well beyond cell and to beyond middle.

♀. Vertex of head without black points; abdomen with continuous dorsal black fascia; fore wing with the postmedial band very broad, its outer edge being diffused nearly to apex.

Hab. COSTA RICA (*Underwood*), 1 ♂, type *striata*; PANAMA, Bugaba (*Champion*), 1 ♀, type *godmani*, Godman-Salvin Coll.: SURINAM. *Exp.*, ♂ 42, ♀ 50 millim.

1304. *Automolis angulosa*.

Automolis angulosa, Wlk. vii. 1634 (1856).

Cretonotus flavicinctus, Herr.-Schäff. Aussereur. Schmett. p. 72, f. 433 (1856); Kirby, Cat. Het. p. 167.

♂. Head, thorax, and abdomen black shot with blue; tegulæ and base of abdomen yellow. Fore wing greyish fuscous; an oblique antemedial yellow band widening somewhat towards inner margin; an oblique band across apical area. Hind wing with the basal half yellow, the terminal half greyish fuscous.

Hab. COLOMBIA, Bogotá (*Stevens*), 1 ♂; BRAZIL. *Exp.* 46 millim.

*1305. *Automolis unifascia*. (Plate XXXVI. fig. 20.)

Sallæa unifascia, Druce, A. M. N. H. (7) iii. p. 466 (1899).

♂. Palpi and frons brown, the former pale at base; antennæ black; back of head orange; thorax whitish, with the extremity of patagia and metathorax brown; abdomen yellow, with large triangular black patch on dorsum clothed with brown hair at base, dorsal black points on terminal segments and a lateral series; legs brown and whitish, the fore coxæ orange. Fore wing yellowish white, with fuscous-brown fascia on inner area and an oblique band from costa beyond middle to tornus. Hind wing yellowish white, with the inner area fuscous.

Hab. BR. GUIANA, Demerara, type † ♂ in Mus. Oxon. *Exp.* 40 millim.

C. Antennæ of male minutely ciliated.

a. Hind wing of female with veins 6, 7 coincident.

*1306. *Automolis orbona*.

Automolis orbona, Schaus, Ent. Am. v. p. 90 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 355, pl. 72. f. 20; Kirby, Cat. Het. p. 167.

♂. Orange-yellow; palpi blackish above; frons metallic blue and black; antennæ and vertex of head black; legs black and orange, with blue spot on the coxæ; abdomen with lateral blue spots, the last four segments black with dorsal and lateral blue spots. Fore wing with diffused fuscous marks in interspaces at apex, and an obscure mark on middle of termen. Hind wing with some fuscous marks on termen, increasing in size



Fig. 49.—*Automolis orbona*, ♂. 1.

towards tornus. Underside of fore wing with the costa fuscous.

Hab. MEXICO, Vera Cruz, type † ♂ in Coll. Schaus. *Exp.* 38 millim.

b. (*Cresera*). Hind wing of female with veins 6, 7 stalked.

*1307. *Automolis annulata*.

Cresera annulata, Schaus, P. Z. S. 1894, p. 232.

♀. Head brown, the vertex ochreous; palpi banded with ochreous; thorax ochreous, the outer part of tegulæ and patagia brown; legs banded with fuscous; abdomen ochreous, dorsally crimson except towards extremity. Fore wing brown; a slight pink mark on inner margin near base followed by an ochreous streak; a series of small triangular ochreous spots on costa from base to beyond middle, with a series of points between them on subcostal nervure, two of the spots connected with a Y-shaped



Fig. 50.—*Automolis annulata*, ♀. 1.

antemedial mark extending to below cell and the 5th with a round spot in cell; obliquely-placed points in middle of cell and on median nervure; slight orange marks on middle of median nervure and at lower angle of cell; two points beyond upper angle; a large postmedial patch extending from costa to vein 3, irrorated with brownish, with six brown annuli on it, and an oblique line across apical area, a curved series of dark-edged ochreous spots partly conjoined to the outer edge of the patch from apex to below vein 2; some lilacine white suffusion on termen and below the patch. Hind wing pale crimson with slight discoidal spot; the inner margin yellow.

Hab. BRAZIL, Rio Janeiro, type † ♀ in Coll. Schaus. *Exp.* 50 millim.

Genus **CASTRICA**.

Type.

Castrica, Schaus, Journ. New York Ent. Soc. iv. p. 136 (1896)... *phalænoides*.

Proboscis fully developed; palpi oblique, reaching just beyond frons; antennæ of male bipectinate with rather short branches, of female very short; tibiæ with the spurs short; abdomen dorsally clothed with rough hairs towards base. Fore wing with vein 3 from well before angle of cell; 5 from well above angle; 6 from upper angle; 7, 8, 9, 10 stalked; 7 given off before 10; 11 from cell. Hind wing of male with vein 2 from near angle of cell; 3 and 5 stalked, 4 absent; 6, 7 from upper angle, 8 from middle of cell; the costa highly lobed at middle, with patches of androconia on upperside of hind wing and underside of fore wing; female with vein 2 from well before angle of cell; 6, 7 stalked to near termen; 8 from angle of cell.

1308. *Castrica phalænoides*.

Sphinx phalænoides, Drury, Ill. Ex. Ent. ii. pl. 28. f. 6 (1773); Kirby, Cat. Het. p. 166.

Castrica oweni, Schaus, Journ. New York Ent. Soc. iv. p. 136 (1896); Druce, Biol. Centr.-Am., Het. ii. p. 370, pl. 74. f. 13.

♂. Head brownish grey; thorax olive yellow-brown, the tegulæ white except at tips; fore coxæ tufted with orange hair behind; legs grey and white; abdomen pale fuscous, the extremity olive-yellow, the ventral surface white. Fore wing pale fuscous, the



Fig. 51.—*Castrica phalænoides*, ♂. †.

inner area olive-yellow; a hyaline spot in end of cell, conjoined patches between veins 2 and 3, which are almost conjoined to subterminal and terminal patches; a terminal spot above vein 6. Hind wing brownish white.

♀. Thorax and abdomen much brighter yellow. Fore wing with the inner area much brighter yellow, the patches suffused with yellow and more separated; subterminal and terminal spots above vein 7. Hind wing yellow.

Hab. HONDURAS; COSTA RICA, 1 ♀; VENEZUELA, Aroa, type † in Coll. Schaus. *Exp.*, ♂ 44, ♀ 60 millim.

Genus **THYROMOLIS**, nov.

Type, *T. pythia*.

Proboscis fully developed; palpi obliquely upturned, not reaching vertex of head; antennæ of male with bristles and cilia; tibiæ with the spurs moderate; hind femora and tibiæ fringed with long scales on inner side; patagia ending in tufts of hair; metathorax with tuft of hair. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10, 11 stalked. Hind wing with vein 2 from towards angle of cell; 3, 5 on a long stalk, 4 absent; 6, 7 from upper angle; 8 from middle of cell, not reaching costa; the inner area with fold and tuft of long hair, the tornus produced to a lobe.

1309. *Thyromolis pythia*.

Idalus pythia, Druce, A. M. N. H. (7) vi. p. 67 (1900).

♂. Head and thorax grey mixed with brown and black; palpi pale yellow, crimson above; antennæ fuscous, the shaft crimson above towards base, white towards tip; legs yellow and white; abdomen pale yellow, with fuscous dorsal patch on four terminal segments, the ventral surface white. Fore wing with the inner area purplish grey extending to basal part of costa, mottled and

striated with red-brown, with yellow spot at base of costa and short streak on vein 1 beyond middle, and with slight black marks at base of vein 1 and on inner margin before middle; the rest of the wing



Fig. 52.—*Thyromolis pythia*, ♂. ♀.

yellow hyaline, with dark brown point at lower angle of cell and a large round apical purplish-grey patch irrorated with brown and with diffused black centre; the grey area with yellow edges. Hind wing yellow, with fuscous suffusion on costal area, the inner area deep orange.

Hab. BOLIVIA, Rio Songo (*Garlepp*), 2 ♂. *Exp.* 34 millim. Type † in Coll. Druce.

Genus **HYPERANDRA**, nov.

Type, *H. appendiculata*.

Proboscis fully developed; palpi upturned and reaching vertex of head; antennæ of male minutely serrate and fasciculate; tibiae with the spurs minute; abdomen dorsally clothed with hair towards base. Fore wing with vein 2 curved; 3 from close to angle; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked, 10 from 8 just before 7; 11 from cell. Hind wing with vein 2 from close to angle of cell; 3, 5 shortly stalked; 4 absent; 6, 7 from upper angle; 8 from middle of cell; the costa very strongly lobed at middle, covering very large patches of androconia extending into cell on underside of fore wing and to median nervure of hind wing; the termen deeply indented below vein 2 and its apical part thickly clothed with large scales above.

*1310. *Hyperandra appendiculata*.

Cretonotus appendiculatus, Herr.-Schäff. Aussereur. Schmett. ff. 475, 476 (1856); Kirby, Cat. Het. p. 171.

♂. Head brown, the vertex orange; antennæ whitish at tips; thorax brown, the tegulae and base of patagia and mesothorax pure white; abdomen orange, the extremity and ventral surface pure white. Fore wing brown, slightly purplish towards the terminal yellow band extending from below apex to below vein 2. Hind wing yellow.



Fig. 53.—*Hyperandra appendiculata*, ♂. ♀.

Hab. BRAZIL, Rio Janeiro, Coll. Schaus. *Exp.* 34 millim.

Genus **HYPIDALIA**, nov.Type, *H. enervis*.

Proboscis fully developed; palpi obliquely upturned, not reaching vertex of head; antennæ of male serrate and fasciculate; tibiæ with the spurs moderate. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with vein 3 from near angle of cell; 4 absent; 5 from angle; the discocellulars straight and erect; 6, 7 shortly stalked; 8 from near end of cell.

1311. *Hypidalia enervis*.

Idalus enervis, Schaus, P. Z. S. 1894, p. 229.

♂. Palpi brownish, the 1st joint fringed with crimson hair; head white; frons with crimson bar; antennæ brownish; thorax crimson mixed with white; patagia and pectus white, the latter crimson in front; legs white, fore legs streaked with brown; abdomen crimson above, white below. Fore wing yellow, the basal area tinged with crimson and grey; the costa and inner margin



Fig. 54.—*Hypidalia enervis*, ♂. 1.

white, with crimson streak below former and above latter; a purplish-grey discoidal patch and streak below costal fascia towards apex; two greyish points beyond the cell and an oblique subterminal series of small spots; cilia white at tips. Hind wing pure white, very slightly tinged with crimson beyond lower angle of cell.

Hab. BRAZIL, Castro Paraña, type † in Coll. Schaus, Petropolis, 1 ♂, Rio Janeiro (*Doer*), 1 ♂. *Exp.* 40 millim.

Genus **CISSURA**.

<i>Cissura</i> , Wlk. ii. 488 (1854)	Type.
<i>Cratosia</i> , Feld. Reis. Nov. p. 3 (1874)	<i>decora</i> .
	<i>decora</i> .

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of male with bristles and cilia; tibiæ with the spurs moderate; abdomen dorsally clothed with long hair towards base. Fore wing with the costa arched; vein 3 from close to angle of cell; 4, 5 stalked; 6 shortly stalked with 7, 8, 9, 10; 11 from angle of cell. Hind wing with vein 2 from near angle of cell; 3, 4 stalked; 5 from below middle of discocellulars; 6, 7 coincident and 8 shortly stalked with them.

- A. Fore wing scarlet, with fuscous fasciæ on costa, median nervure, and inner margin..... *unilineata*.
 B. Fore wing dark, with scarlet fasciæ below costa and median nervure.
 a. Fore wing with scarlet fascia on inner margin..... *decora*.
 b. Fore wing without scarlet fascia on inner margin *plumbea*.

*1312. *Cissura unilineata*.

Cratosia unilineata, Dognin, Le Nat. (2) v. p. 8 (1891); id. Léop. Loja, p. 52, pl. 4. f. 15; Kirby, Cat. Het. p. 287.

♀. Head and thorax black, suffused with blue-grey except the palpi and antennæ; patagia scarlet edged with bluish grey; coxæ scarlet; abdomen black, with dorsal scarlet bands except on last two segments, only leaving narrow segmental black lines towards base. Fore wing scarlet, becoming slightly orange towards apex; the costa blackish, expanding into a fuscous streak at middle; a fuscous streak on median nervure and vein 5 to near termen; the inner margin fuscous; cilia blackish. Hind wing fuscous, with semi-hyaline patch below the cell.

Hab. ECUADOR, Loja, type † in Coll. Dognin. *Exp.* 50 millim.

1313. *Cissura decora*.

Cissura decora, Wlk. ii. 489 (1854); Kirby, Cat. Het. p. 287.

Cratosia parallela, Feld. Reis. Nov. pl. 106. f. 8 (1874).

Head and thorax blue-black; tegulæ edged with crimson in front; patagia edged with crimson above; pectus crimson; legs black, with white points at base of tarsi; abdomen crimson. Fore wing bluish black; a crimson fascia on costa, becoming subcostal before middle and at apex joining a fascia on costa arising beyond



Fig. 55.—*Cissura decora*, ♂. $\frac{1}{2}$.

middle; a fascia from base of inner margin to the narrow terminal band below apex; a narrow fascia on inner margin arising before middle. Hind wing fuscous, the area below the cell and vein 3 whitish, especially in male.

Hab. BRAZIL, 1 ♂ type, São Paulo (Jones), 1 ♀. *Exp.* 42–46 millim.

1314. *Cissura plumbea*, n. sp. (Plate XXXVI. fig. 2.)*Cissura decora*, Druce, Biol. Centr.-Am., Het. ii. p. 399 (nec Wlk.).

♀. Head and thorax leaden grey; 1st joint of palpi, part of 2nd, upper edge of patagia, pectus, coxæ, and abdomen crimson. Fore wing leaden grey; a crimson subcostal fascia from base to apex, where it joins a costal fascia arising beyond middle; a fascia from base to termen below apex, the crimson on costa being continued round the apex to meet it. Hind wing fuscous grey, the area below the cell paler.

Hab. BR. HONDURAS, Belize, 1 ♀ type. *Exp.* 42 millim.

Genus **MELESE.**

	Type.
<i>Melese</i> , Wlk. ii. 491 (1854).....	<i>postica</i> .
<i>Malabus</i> , Wlk. iii. 716 (1855)	<i>incertus</i> .

Proboscis fully developed; palpi upturned, reaching or not reaching vertex of head, the 3rd joint minute; antennæ of male minutely serrate and fasciculate, or bipectinate with short branches; tibiæ with the spurs moderate; thorax and abdomen clothed with rough hair. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell; male with an elliptical scale-like leaden-grey glandular patch below base of cell; the termen turned over on underside from apex to vein 3 so as to make it appear straight. Hind wing with vein 2 from well before angle of cell; 3, 4 stalked or from cell; 5 from well above angle; 6, 7 coincident; 8 shortly stalked with 7, rarely obsolete.

SECT. I. (*Malabus*). Hind wing with veins 3, 4 stalked. Antennæ of male minutely serrate and fasciculate.

- A. Fore wing with irregular crimson-edged orange markings in and below cell.
 - a. Female with large yellow irregular postmedial patch on costa and conjoined crimson-edged yellow spots on termen *amastris*.
 - b. Female with postmedial white lunule below costa and no spots on termen *russata*.
- B. Fore wing brown with crimson subcostal streak; a spot below cell on vein 1.
 - a. Fore wing without yellow and scarlet spots on inner margin, the female with antemedial yellow spot..... *incerta*.
 - b. Fore wing with yellow and scarlet antemedial and medial spots on inner margin *endopyra*.
- C. Fore wing almost uniform crimson suffused with chestnut, the basal area below cell yellowish *chozeba*.

1315. *Melese amastris*.

Neritos amastris, Druce, Biol. Centr.-Am., Het. i. p. 90, pl. 9. f. 23, ♂ (1884); id. Biol. Centr.-Am., Het. ii. p. 367, pl. 73. f. 26, ♀; Kirby, Cat. Het. p. 198.

♂. Head and thorax orange mixed with scarlet; antennæ brownish, the tips and tarsi white; abdomen crimson. Fore wing crimson, thickly irrorated with brown; the basal half with irregular scarlet-edged orange spots, one below cell before middle, two in cell conjoined to one below its middle, with another below it on vein 1;

two spots below end of cell; a small scarlet-edged hyaline spot beyond the cell, between veins 5 and 6. Hind wing crimson.



Fig. 56.—*Melese amastris*, ♂. 1.

♀ with an irregular crimson-edged pale yellow patch on costa beyond middle, extending down to vein 4 and with its outer edge excised; a series of conjoined crimson-edged yellow spots on termen between apex and vein 3.

Hab. MEXICO, Jalapa (*Trujillo*), type; GUATEMALA (*Champion*); COSTA RICA (*Underwood*), Godman-Salvin Coll.; BRAZIL, Sta. Catherina. *Exp.*, ♂ 40, ♀ 44 millim.

1316. *Melese russata*. (Plate XXXVII. fig. 1.)

Elysius russatus, H. Edw. *Papilio*, iv. p. 60 (1884); Kirby, *Cat. Het.* p. 219.

♀. Head and thorax orange-red, suffused with grey-brown on frons, tegulae, and outer edge of patagia; tips of antennae and tarsi white; abdomen crimson. Fore wing crimson, suffused with grey-brown, leaving a slight crimson streak below costa and slight marks in cell; irregular crimson-edged orange patches on basal area below the cell; a postmedial crimson-edged white lunule below the costa with a yellowish mark above it on costa; cilia crimson and yellow from apex to vein 3. Hind wing crimson.

Hab. MEXICO, Cuesta de Misantla (*Trujillo*), 1 ♀, Godman-Salvin Coll. *Exp.* 44 millim.

1317. *Melese incerta*. (Plate XXXVII. fig. 6.)

Malabus incertus, Wlk. iii. 716 (1855); Kirby, *Cat. Het.* p. 246.

♂. Rufous brown; palpi above, sides of frons, and basal joint of antennae crimson; tegulae edged with crimson; legs white and brown, fore coxae and part of femora crimson; abdomen crimson, the extremity brown, the ventral surface white. Fore wing with fine subcostal crimson streak, and some crimson at base of inner margin; an antemedial crimson point on vein 1; cilia crimson from apex to vein 2. Hind wing crimson.

♀. Antennae white at tips; fore wing with crimson-edged yellow antemedial spot on vein 1.

Hab. VENEZUELA, Aroa; BRAZIL, Pará, 1 ♂ type, Espiritu Santo, 2 ♀; BOLIVIA, R. Songo. *Exp.*, ♂ 30, ♀ 36–40 millim.

1318. *Melese endopyra*, n. sp. (Plate XXXVII. fig. 15.)

Head and thorax reddish brown; palpi above, sides of frons, and back of head crimson; tegulæ and patagia slightly edged with crimson; coxæ and femora above crimson; metathorax with crimson patch; abdomen crimson above, whitish below. Fore wing red-brown; yellow and scarlet streak on base of inner margin expanding into a patch with a yellow spot on it before middle; a medial bar from submedian fold to inner margin; a blackish spot in middle of cell and another with slight red centre below base of vein 2; obliquely-placed small dark-edged hyaline spots beyond the cell above and below vein 6. Hind wing yellow tinged with pink, especially in female.

Hab. BOLIVIA, Chaco (*Garlepp*), 1 ♀ type, ♂ in Coll. Staudinger. *Exp.* 40 millim.

1319. *Melese chozeba*.

Neritos chozeba, Druce, Biol. Centr.-Am., Het. i. p. 90, pl. 9. f. 22 (1884); Kirby, Cat. Het. p. 198.

♂. Head and thorax orange tinged with crimson and chestnut; tips of antennæ and tarsi white; pectus and abdomen crimson, the latter orange towards extremity. Fore wing crimson suffused with chestnut, and with some confluent orange-yellow spots on basal area below the cell; traces of a postmedial hyaline point above vein 5. Hind wing yellowish white, the inner area very slightly tinged with crimson and brown.

Hab. COSTA RICA, Irazu (*Rogers*), 1 ♂ type, Godman-Salvin Coll.; BRAZIL, Sta. Catherina, Rio Grande do Sul. *Exp.* 42 millim.

Subsp. 1. Head, thorax, abdomen, and markings of fore wing deep bright crimson; the hyaline spot above vein 5 well developed; hind wing pale yellow.

Hab. COLOMBIA (*Pratt*), in Coll. Druce.

SECT. II. (*Melese*). Hind wing with veins 3, 4 from cell; the scale-like gland small.

A. Antennæ of male bipectinate, with short branches.

a. Fore wing with crimson markings; hind wing tinged with crimson.

*a*¹. Vertex of head brown..... *asana*.

*b*¹. Vertex of head yellow and crimson.

*a*². Fore wing of female without prominent yellow postmedial patch on costa..... *flavimaculata*.

*b*². Fore wing of female with yellow postmedial patch on costa..... *laodamia*.

*c*². Fore wing of female with crimson annuli on yellow spots..... *ocellata*.

b. Fore wing without crimson markings; hind wing brown. *babosa*.

1320. *Melese asana*.

Neritos asana, Druce, Biol. Centr.-Am., Het. i. p. 90, pl. 9. f. 21 (1884); Kirby, Cat. Het. p. 198.

♂. Head and thorax grey-brown; antennæ white at tips; palpi,

basal joint of antennæ, a ring round neck, and the edges of tegulæ and patagia crimson; legs striped with crimson, the tarsi white; abdomen crimson. Fore



Fig. 57.—*Melese asana*, ♂. †.

on vein 1 whitish; two conjoined black-edged hyaline postmedial points below costa connected with a yellow mark on costa. Hind wing yellowish, more or less suffused with crimson.

♀. Fore wing with the point in cell and series of spots below it crimson except the white-edged spot; the postmedial points replaced by a yellow patch with its lower extremity running out to a point; cilia yellow from apex to vein 3. Hind wing crimson.

Ab. 1. Larger, 38 millim.; fore wing with larger yellow patches above inner margin.—Petropolis, Rio Janeiro.

Hab. MEXICO, Tabasco (*H. H. Smith*), 2 ♂; PANAMA (*Champion*), 1 ♂, 1 ♀ type, Godman-Salvin Coll.; COLOMBIA, St. Martha (*Boucard*), 1 ♂; AMAZON, Ega (*Bates*), 1 ♀, Petropolis, Rio Janeiro (*Doer*), 3 ♂. *Exp.*, ♂ 26, ♀ 32 millim.

*1321. *Melese flavimaculata*. (Plate XXXVII. fig. 18.)

Melese flavimaculata, Dognin, Ann. Soc. Ent. Belge, xliii. p. 327 (1899).

♀. Crimson; head and thorax mixed with orange; a fuscous bar across upper part of frons. Fore wing largely suffused with dark brown; a crimson-edged yellow spot at base, an antemedial spot below cell, a spot in middle of cell, another above base of vein 2, and an obscure spot below vein 2; a wedge-shaped spot below costa beyond middle, with a quadrate spot below its extremity above vein 5; irregular crimson and yellow spots on termen from apex, where there is a wedge-shaped spot, to vein 3 where there is a larger spot.

Hab. ECUADOR (*C. de Labonnefou*), type † ♀ in Coll. Dognin. *Exp.* 40 millim.

1322. *Melese laodamia*.

Neritos laodamia, Druce, Biol. Centr.-Am., Het. i. p. 90, pl. 9. f. 20 (1884), ♂; Kirby, Cat. Het. p. 198.

Neritos cutheans, Druce, A. M. N. H. (6) xviii. p. 40 (1896), ♀.

♂. Head and thorax orange and crimson; a bar above frons, antennæ, tegulæ in front, edges of patagia, and a patch on meso-thorax grey-brown; legs crimson and brown, the tarsi white;

abdomen crimson, orange at extremity. Fore wing yellow; some crimson and grey-brown suffusion on basal and costal areas to beyond middle, then running obliquely to termen at vein 2 or 3 and leaving a yellow spot in end of cell and a large ill-defined patch on medial inner area; a triangular crimson and grey-brown patch on costa beyond middle sometimes connected with the oblique outline of basal area. Hind wing white.

♀. Fore wing with the ground-colour crimson suffused with grey-brown, leaving some crimson marks at base, an orange and crimson spot in middle of cell, and six or seven spots on medial area below the cell; a postmedial yellow spot on costa, its lower extremity produced towards tornus; the termen yellow from apex to vein 3; hind wing tinged with pale crimson.

Hab. MEXICO, Orizaba; PANAMA, Chiriqui, type † in Coll. Staudinger; COLOMBIA, type † ♀ *cutheans* in Coll. Druce; VENEZUELA, Aroa, 1 ♂, 2 ♀; TRINIDAD. *Exp.*, ♂ 38, ♀ 52 millim.

1323. *Melese ocellata*, n. sp. (Plate XXXVII. fig. 2.)

♀. Head yellow and crimson; thorax brown, with crimson patches on patagia; legs yellow and brown; abdomen yellow, dorsally tinged with crimson. Fore wing brown, with large elliptical yellow spots with crimson annuli on them; a subbasal spot; an oblique antemedial series of three spots, the two below the cell conjoined; a small spot in end of cell; a postmedial series of conjoined spots angled outwards to near termen at vein 5, then oblique to above middle of inner margin; an irregular apical spot. Hind wing yellow, strongly tinged with crimson.

Hab. BRAZIL, Minas Geraes, 1 ♀ type. *Exp.* 34 millim.

1324. *Melese babosa*. (Plate XXXVII. fig. 23.)

Neritos babosa, Dognin, Ann. Soc. Ent. Belge, xxxviii. p. 681 (1894).

♀. Head and thorax pale brown; palpi above and basal joint of antennæ pink; legs brown and white, the coxæ pink; abdomen pink with brown lateral stripes, the ventral surface white. Fore wing pale brown, thickly irrorated with darker brown; two fuscous discoidal points; an irregular postmedial hyaline yellow patch below costa, with projections from its upper and lower sides; slight yellow points on costa towards apex and on termen below apex. Hind wing brown, with pale yellowish spot beyond upper angle of cell.

Hind wing with vein 8 obsolete.

Hab. BRAZIL, Castro Paraña, 1 ♀, São Paulo; ECUADOR, Loja, type † ♀ in Coll. Dognin. *Exp.* 34 millim.

B. Antennæ of male serrate and fasciculate.

- a. Fore wing with three obliquely placed postmedial white points from costa *postica*.
 b. Fore wing with yellow and crimson spot beyond cell *dorothea*.

1325. *Melese postica*.

Melese postica, Wlk. ii. 492 (1854); Kirby, Cat. Het. p. 247.

Rufous brown; palpi above, sides of frons, and basal joint of antennæ crimson; fore coxæ crimson; tarsi whitish; abdomen crimson, whitish below. Fore wing with traces of subcostal crimson streak; some crimson at base of inner margin; a small



Fig. 58.—*Melese postica*, ♂. 1.

fuscous spot on vein 1 before middle, a discoidal spot and an obscure band from lower angle of cell to inner margin, all these sometimes with whitish or crimson centres; three obliquely placed whitish points from costa beyond middle, the middle one often almost obsolete. Hind wing crimson.

Hab. AMAZONS, Pará, 1 ♀ type, Ega, 1 ♂, Villa Nova, 1 ♂. *Exp.* 24–30 millim.

1326. *Melese dorothea*.

Bombyx dorothea, Stoll, Pap. Exot. iv. pl. 397. K (1782); Kirby, Cat. Het. p. 219.

Phalæna cruenta, Sepp, Ins. Surinam, ii. pl. 73 (1848); Kirby, Cat. Het. p. 907.

Halsidota binotata, Wlk. vii. 1709 (1855); Kirby, Cat. Het. p. 211.

♀. Head, thorax, and abdomen orange and crimson; the frons and sides of tegulæ greyish; legs and ventral surface of abdomen greyish. Fore wing crimson, almost entirely suffused with grey-brown, leaving some crimson at base and on costa; crimson-edged orange spots below middle of cell, on vein 1 before middle, and beyond discocellulars above vein 5. Hind wing pale crimson, deeper on inner area.

♂. Fore wing strongly irrorated with fuscous, especially on terminal half; hind wing white, with some pink towards tornus.

Hab. SURINAM; PANAMA, Chiriqui Volcano, 1 ♀; BRAZIL, Espiritu Santo, Rio Janeiro, 1 ♂. *Exp.*, ♂ 38, ♀ 48 millim.

Larva. Blackish; the sutures of head dull orange; some dull orange marks on dorsum; warts blue; hair black. Food-plant, ? an *Asclepiad*.

Genus **BERTHOLDIA.**

Type.

Bertholdia, Schaus, J. N. Y. Ent. Soc. iv. p. 137 (1896)..... *specularis*.

Proboscis fully developed; palpi upturned, not reaching vertex of head, rather broadly scaled, the 3rd joint minute; frons with tuft of hair; antennæ of male ciliated; abdomen dorsally clothed with rough hair at base. Fore wing with veins 3, 4, 5 from angle of cell, or 3 before angle; 6 from upper angle or shortly stalked with 7, 8, 9, 10; 11 free. Hind wing with veins 3, 4 from angle of cell or shortly stalked; 5 from well above angle; 6, 7 coincident; 8 from towards angle of cell; male with a scale-like gland on underside of fore wing below the cell near base.

A. Abdomen crimson above.

a. Fore wing with antemedial white point on vein 1.

a¹. Tegulæ with white dorsal spot; fore wing with white subterminal line.

a². Fore wing with lilacine grey suffusion below the hyaline patch.....

albipuncta.

b². Fore wing without grey suffusion below the hyaline patch.....

myosticta.

b¹. Tegulæ without white spot; fore wing without white subterminal line.....

braziliensis.

b. Fore wing with antemedial yellow point on vein 1.

a¹. Head and thorax dark red-brown.....

philotera.

b¹. Head and thorax pale brown pencilled with white.

a². Hind wing with the termen pure white; underside of fore wing crimson, the terminal area grey to vein 3, with crimson streaks on the veins.

a³. Fore wing with the outer edge of hyaline patch sinuous below vein 6.....

schausiana.

b³. Fore wing with the outer edge of hyaline patch straight below vein 6.....

trigona.

b². Hind wing with the termen tinged with fuscous; underside of fore wing with crimson patch in cell, and no crimson streaks on veins of terminal area...

specularis.

B. Abdomen yellow above..... *flavidorsata*.

1327. *Bertholdia albipuncta*.

Bertholdia albipuncta, Schaus, J. N. Y. Ent. Soc. iv. p. 137 (1896); Druce, Biol. Centr.-Am., Het. ii. p. 380, pl. 75. f. 16.

♂. Head and thorax red-brown; palpi white, crimson above; tegulæ edged with white and with white medial patch; legs white, femora at extremities and greater part of tibiæ brown, fore coxæ and femora above crimson; abdomen crimson, the ventral surface white, a lateral series of black spots. Fore wing brown; an antemedial white point on vein 1; a hyaline patch extending on costa from middle to towards apex, its lower edge curved down to vein 4 and slightly sinuous, its outer edge sinuous and produced at vein 5, some black points on it near the veins, some lilacine grey suffusion below it down to vein 2; the apex tinged with lilacine grey; a fine whitish subterminal line. Hind wing pure white.

♀. Hind wing with the inner and terminal areas tinged with fuscous.

Hab. MEXICO, Vera Cruz, Jalapa; PANAMA, Chiriqui, 1 ♂; VENEZUELA, Aroa, type in Coll. Schaus; BRAZIL, Rio Janeiro, 1 ♀. Exp. 36 millim.

1328. *Bertholdia myosticta*, n. sp. (Plate XXXVII. fig. 19.)

Bertholdia albipuncta, Druce, Biol. Centr.-Am., Het. ii. p. 380 (part.), pl. 75. f. 18.

Head and thorax red-brown; palpi white in front; tegulæ slightly edged with white and with white medial patch; legs white, the extremity of femora and greater part of tibiæ brown, fore coxæ and femora above crimson; abdomen crimson, the ventral surface white, a lateral series of black spots. Fore wing red-brown, yellowish towards inner margin and termen; an antemedial white spot on vein 1; a hyaline patch extending on costa from middle to towards apex, its lower edge curved down to vein 4, its outer sinuous and produced at vein 5 to near termen, some black points on it near the veins and one or two just beyond it near vein 5; a curved yellowish subterminal line becoming white towards costa; some white points on cilia towards apex. Hind wing hyaline, the inner and terminal area tinged with fuscous, the inner margin crimson towards base. Underside of fore wing with crimson patch in cell.

Ab. 1. Hind wing pure white, with more crimson on inner area.—Venezuela.

Hab. MEXICO, Orizaba, 1 ♀; COSTA RICA, Irazu (*Rogers*), 1 ♂ type, Godman-Salvin Coll.; VENEZUELA, Merida (*Bricenno*), 1 ♀; BRAZIL, Castro Paraña. *Exp.*, ♂ 42, ♀ 48 millim.

1329. *Bertholdia braziliensis*, n. sp. (Plate XXXVII. fig. 3.)

Head and thorax yellow-brown; palpi crimson, white in front; basal joint of antennæ crimson behind; legs white, the extremity of femora and base of tibiæ brown, fore coxæ on outer side and femora above crimson; abdomen crimson, the ventral surface white, a lateral series of black spots. Fore wing yellow-brown irrorated with black; the basal half of costa crimson; a yellowish antemedial point below the cell and white point on vein 1; a black-edged yellow hyaline patch extending on costa from middle to towards apex, its inner edge bisinuate and extending down to vein 3, its outer irregularly sinuous and produced at vein 6, some black points on the veins. Hind wing semihyaline white, the inner area tinged with crimson. Underside of fore wing with crimson patch in cell.

Hab. BRAZIL, São Paulo (*Jones*), 4 ♂ type, Rio Janeiro, 3 ♀. *Exp.*, ♂ 36, ♀ 40–48 millim.

1330. *Bertholdia philotera*.

Bertholdia philotera, Druce, Biol. Centr.-Am., Het. ii. p. 380, pl. 75. ff. 19, 21 (1897).

♂. Head and thorax red-brown; palpi crimson, whitish in front; antennæ with the basal joint ringed with crimson; neck crimson; legs white, the extremity of femora and greater part of tibiæ brown; fore coxæ and femora crimson; abdomen crimson, with a black patch on middle of dorsum connected by a fascia with the black terminal

segment, the ventral surface white, a lateral series of black spots. Fore wing red-brown; the base of inner margin crimson; a small yellow antemedial spot on vein 1; a hyaline patch extending on costa from middle halfway to apex, its lower edge bisinuate to vein 3 near termen, its outer edge irregular, produced to a point above vein 5, yellowish at costa, and with some black points on the veins; an indistinct pale curved subterminal line; some yellow points on the cilia. Hind wing fuscous brown, some hyaline in, below, and beyond the cell; the inner margin crimson; the cilia white at apex.

♀. Abdomen without the black patch and fascia; a slight blackish dorsal mark on veins 2 and 3.

Hab. PANAMA, Chiriqui (*Trotsch*), 1 ♀. *Exp.* 42 millim. Type † in Coll. Staudinger.

1331. *Bertholdia schausiana*. (Plate XXXVII. fig. 20.)

Bertholdia schausiana, Dyar, J. N. Y. Ent. Soc. vi. p. 36 (1898).

Head and thorax brown pencilled with white; palpi crimson, white in front; basal joint of antennæ crimson below; tegulæ and patagia edged with crimson; legs white, fore coxæ on outer side and femora above crimson, the tibia and last joint of tarsi brown; abdomen crimson, the ventral surface white, a lateral series of black spots. Fore wing thickly irrorated with black and brown, and usually strongly tinged with crimson; the basal half of costa and base of inner margin scarlet; an antemedial yellow point on vein 1; a large hyaline patch tinged with yellow towards edges and edged by a fine black line extending on costa from middle to towards apex, its inner edge sinuous and extending down to vein 4, its outer irregularly sinuous and produced at vein 6, some black points on the veins; the costa towards apex and a fine terminal line scarlet; cilia yellow, chequered with black, rarely wholly yellow. Hind wing semihyaline white, the inner area strongly tinged with crimson. Underside of fore wing crimson, the terminal area down to vein 3 grey, with crimson streaks on the veins.

Hab. MEXICO, Orizaba, Jalapa (*Hoega*, *Trujillo*), 3 ♀; COSTA RICA (*Underwood*), 1 ♀, Godman-Salvin Coll. *Exp.* 50 millim.

1332. *Bertholdia trigona*. (Plate XXXVII. fig. 4.)

Halesidota trigona, Grote, N. Am. Ent. i. p. 46 (1879); Kirby, Cat. Het. p. 211.

♂. Head and thorax brown pencilled with white; palpi crimson, white in front; basal joint of antennæ crimson below; tegulæ and patagia edged with crimson; legs white, fore coxæ on outer side and femora above, the tibia and tarsi grey, mid and hind femora and tibiæ black at extremities; abdomen crimson, the ventral surface white, a lateral series of black spots. Fore wing grey, strongly irrorated with brown and tinged with crimson; the basal half of costa scarlet; antemedial yellow spots below the cell

and on vein 1, and a more or less developed patch below end of cell; a hyaline patch, yellow towards its edges, on which are fine black lines, its inner edge angled inwards at costa and at its extremity on vein 3, its outer edge angled on vein 6; the terminal area brown down to vein 3, the costa towards apex scarlet; cilia chequered scarlet and black. Hind wing white, more or less tinged with crimson except towards costa and termen. Underside of fore wing crimson, the terminal area grey down to vein 3, with crimson streaks on the veins.

Hab. U.S.A., Colorado; N. MEXICO, Durango, 1 ♂. *Exp.* 40 millim.

1333. *Bertholdia specularis*.

Trichromia specularis, Herr.-Schäff. Aussereur. Schmett. f. 59 (1853); Druce, Biol. Centr.-Am., Het. i. p. 100; Kirby, Cat. Het. p. 196.

Head and thorax brown with whitish pencilling; palpi crimson, white in front; basal joint of antennæ crimson; neck and edges of tegulæ and patagia crimson; legs white, with some brown at extremity of femora and base of tibiæ, fore femora crimson above; abdomen crimson, the ventral surface white, a lateral series of black spots. Fore wing pale grey-brown, thickly irrorated with black; the basal half of costa scarlet; small obliquely-placed antemedial



Fig. 59.—*Bertholdia specularis*, ♂. $\frac{1}{4}$.

yellow spots below the cell and on vein 1; a large hyaline patch extending on costa from middle to towards apex, its inner side edged with black, sinuous, and extending down to vein 3, its outer irregularly sinuous and produced at vein 6, some black points on the veins and the costa yellow, the area beyond it tinged with red; the termen grey; the cilia blackish with yellow spots. Hind wing semihyaline white, the inner area crimson, the termen tinged with fuscous. Underside of fore wing with crimson patch in cell.

The male makes a noise during flight, v. Rogenh. Verh. zool.-bot. Ges. Wien, 1869, p. 919.

Hab. MEXICO, 1 ♂, 1 ♀, Jalapa (*Hoega, Trujillo*), 1 ♂, 2 ♀; COSTA RICA (*Underwood*), 1 ♀; GUATEMALA (*Rodriguez, Champion*), 1 ♂, 2 ♀; PANAMA, Chiriqui (*Champion, Ribbe*), 2 ♂, 1 ♀, Godman-Salvin Coll.; VENEZUELA, Aroa. *Exp.*, ♂ 40, ♀ 44 millim.

1334. *Bertholdia flavidorsata*, n. sp. (Plate XXXVII. fig. 21.)

♀. Head and thorax purplish brown; palpi white in front; vertex of head tinged with white; tegulæ edged with white; patagia with slight white upper edge; legs white, the end of femora and greater part of tibiæ brown, fore coxæ with orange patches; abdomen orange-yellow, the ventral surface white, a lateral series of spots and the anal tuft black. Fore wing purplish brown irrorated with black; a small antemedial yellow spot on vein 1; a large hyaline patch extending on costa from middle to near apex, its lower edge curved to vein 4 near termen, sinuous just beyond discocellulars, its outer edge irregularly sinuous and produced on vein 6, some black points on it on and near the veins and a larger point on vein 5; the apical area rufous and grey; a fine curved subterminal white line obsolete above vein 7, the area beyond it blackish. Hind wing hyaline, the inner area tinged with brown, the apical with fuscous.

Hab. BOLIVIA, Songo (*Garlepp*), 1 ♀ type. *Exp.* 48 millim.

Genus *XANTHOPHÆINA*, nov.

Type, *X. levis*.

Proboscis fully developed; palpi upturned to above vertex of head, the first two joints fringed with hair in front; antennæ of male bipectinate, the branches dilated at extremity; thorax and dorsal surface of abdomen towards base clothed with woolly hair; tibiæ with the spurs short. Fore wing with vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 3 from near angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

*1335. *Xanthophæina levis*.

Phegoptera levis, Druce, A. M. N. H. (7) iii. p. 467 (1899).



Fig. 60.—*Xanthophæina levis*, ♂. 1.

♂. Head and thorax black-brown; orange spots on 1st joint of palpi and just below antennæ; antennæ pale, with the basal joint orange; coxæ orange; tibiæ and tarsi pale brown; abdomen orange, with large triangular black-brown dorsal patch at base and small spot beyond it, the ventral surface black with lateral and sublateral series of orange spots. Fore wing brown with a purplish tinge;

three orange points on black spots at base; a Y-shaped medial black band ending on vein 1, its inner arm thickened at base and with slight orange streaks on subcostal and median nervures, its outer arm curved and with slight orange streaks on the veins. Hind wing fuscous.

Hab. COLOMBIA, Popayan (Rogers), 1 ♂ type † in Mus. Oxon. *Exp.* 58 millim.

Genus AMMALO.

	Type.
<i>Ammalo</i> , Wlk. iii. 622 (1855)	<i>helops</i> .
<i>Tanada</i> , Wlk. vii. 1745 (1856)	<i>tenera</i> .
<i>Pareuchætes</i> , Grote, Proc. Ent. Soc. Phil. v. p. 245 (1865)	<i>insulata</i> .

Proboscis fully developed; palpi upturned, not reaching vertex of head, the 3rd joint short; antennæ of male bipectinate, with rather long branches, of female with short branches; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 3 from close to angle of cell; 4, 5 from angle; 6, 7 from upper angle; from beyond middle of cell.

- A. Fore wing with white spots below and beyond the cell ... *signata*.
- B. Fore wing without white spots.
 - a. Hind wing orange tinged with crimson *helops*.
 - b. Hind wing yellowish.
 - a¹. Fore wing irrorated with brown *bipunctata*.
 - b¹. Fore wing uniform ochreous yellow..... *insulata*.
- C. Hind wing white..... *tenera*.
- D. Hind wing tinged with fuscous..... *eglenensis*.

*1336. *Ammalo signata*. (Plate XLIV. fig. 1.)

Elysius signatus, Wlk. Trans. Ent. Soc. (3) i. p. 75 (1862); Kirby, Cat. Het. p. 219.

♂. Head and thorax orange, tinged with scarlet and slightly irrorated with brown; antennæ dark brown; abdomen scarlet, with lateral series of black spots. Fore wing orange, tinged with scarlet and thickly striated with diffused rufous striæ; a dark-edged triangular white spot below the cell; dark-edged white points in end of cell and above vein 3, and a larger spot below vein 5. Hind wing white; the costa and termen suffused with brown, most widely at apex, tornus, and on veins of terminal area.

Hab. BRAZIL, type † ♂ in Mus. Oxon. *Exp.* 42 millim.

1337. *Ammalo helops*.

Bombyx helops, Cram. Pap. Exot. i. pl. 72. C (1775); Kirby, Cat. Het. p. 222.

Ammalo fervidus, Wlk. iii. 622 (1855); Kirby, Cat. Het. p. 222.

Halesidota megapyrrha, Wlk. xxxi. 308 (1864).

Halesidota chrysogaster, Wlk. xxxi. 312 (1864); Druce, Biol. Centr.-Am., Het. i. p. 91; Kirby, Cat. Het. p. 222.

Ammalo impunctus, Grote, Proc. Ent. Soc. Philad. v. p. 236 (1865); Kirby, Cat. Het. p. 222.

Head and thorax orange-red; 3rd joint of palpi and antennæ black; sides of frons, tegulæ, and patagia with black points; tibiæ and tarsi fuscous; abdomen orange, with dorsal black bands, the hair at base of dorsum tinged with scarlet. Fore wing pale brown mottled with darker purplish brown; some scarlet markings at base and often spots in and below end of cell; the terminal area darker



Fig. 61.—*Ammalo helops*, ♂. 1.

purplish brown, with irregular inner edge sometimes with sinuous submarginal series of scarlet spots. Hind wing orange strongly tinged with crimson.

Hab. MEXICO, Cordova (*Hoega*), 1 ♂, Coatepec (*Brooks*), 2 ♀, Yucatan (*Gaumer*), 1 ♂; GUATEMALA (*Rodriguez*), 1 ♂, 2 ♀; COSTA RICA (*Van Patten*, *Underwood*), 3 ♂, 2 ♀; PANAMA (*J. J. Walker*), 1 ♂, Godman-Salvin Coll., La Chorrera (*Dolby-Tylor*), 1 ♂, 2 ♀; JAMAICA, 1 ♀; CUBA; HAITI (*Tweedie*), 1 ♀; GRENADA (*H. H. Smith*), 1 ♂, 1 ♀; TRINIDAD (*Broadway*), 2 ♂; COLOMBIA, Bogotá, 2 ♂ types *chrysogaster* and *megapyrrha*, 1 ♀ type *fervidus*; BRAZIL, 1 ♂. *Exp.*, ♂ 56–64, ♀ 70–84 millim.

1338. *Ammalo bipunctata*. (Plate XXXVII. fig. 22.)

Halesidota bipunctata, Wlk. iii. 738 (1855); Kirby, Cat. Het. p. 236.

♂. Ochreous; head and thorax tinged with brown; abdomen orange above, with dorsal and lateral series of black points. Fore wing strongly irrorated with brown; a black discoidal point. Hind wing yellowish white.

Hab. AMAZONS, Pará, 1 ♂ type. *Exp.* 34 millim.

1339. *Ammalo insulata*. (Plate XXXVII. fig. 14.)

Halesidota insulata, Wlk. iii. 734 (1855); Kirby, Cat. Het. p. 236.

Pareuchates cadaverosa, Grote, Proc. Ent. Soc. Philad. v. p. 245 (1865); Druce, Biol. Centr.-Am., Het. i. p. 93 & ii. p. 372; Kirby, Cat. Het. p. 237.

Parcuchaetes affinis, Grote, Proc. Ent. Soc. Philad. v. p. 245 (1865); Kirby, Cat. Het. p. 237.

Euchaetes aurata, Butl. Cist. Ent. ii. p. 38 (1875); Kirby, Cat. Het. p. 236.

Orange-yellow; palpi, lower part of frons, antennæ, tibiæ, and tarsi fuscous black; abdomen orange above, with more or less distinct dorsal and lateral series of black points. Hind wing rather paler.

Hab. U.S.A., Florida; MEXICO, Jalapa (*Trujillo*), 1 ♂, 1 ♀, Atoyac (*Schumann*), 1 ♂, 2 ♀, Orizaba (*Trujillo*), 1 ♀, Presidio (*Forrer*), 1 ♂, 1 ♀, Yucatan (*Gaumer*), 1 ♂; GUATEMALA (*Rodriguez*), 3 ♂; COSTA RICA (*Underwood*), 3 ♀; PANAMA, Chiriqui (*Champion*), 1 ♂, Bugaba, 1 ♀, Godman-Salvin Coll., La Chorrera (*Dolby-Tylor*), 1 ♀; JAMAICA (*Cockerell*, *Martin*, *Gosse*), 1 ♂, 4 ♀, type; HAITI (*Tweedie*), 2 ♂, 1 ♀; CUBA; PORTO RICO; GRENADA (*H. H. Smith*), 2 ♀; COLOMBIA, Sta. Martha (*Boucard*), 1 ♀; VENEZUELA, 1 ♀; BRAZIL, Amazons, Paraña (*Austen*), 1 ♂, Manaos (*Trail*), 1 ♂, Leopoldina, Espiritu Sto., 1 ♀ type *aurata*, Santarem (*Bates*), 1 ♀, Rio Grande do Sul, São Paulo (*Jones*), 1 ♂, 1 ♀. *Exp.*, ♂ 30, ♀ 40 millim.

1340. *Ammalo tenera*.

Cyenia tenera, Hübn. Zutr. ex. Schmett. i. p. 7, ff. 3-4 (1827); Kirby, Cat. Het. p. 237.

Hyphantria collaris, Fitch, Rep. Ins. N. York, iii. p. 65 (1856); Stretch, Zyg. & Bomb. N. Am. p. 188, pl. 8. f. 5; Kirby, Cat. Het. p. 236.

Tanada antica, Wlk. vii. 1745 (1856).

Arctia sciurus, Boisd. Ann. Soc. Ent. Belge, xii. p. 79 (1869).

Euchaetes yosemite, H. Edw. Papilio, iii. p. 146 (1884); Kirby, Cat. Het. p. 237.

White; palpi yellow, blackish at tips; vertex of head, tegulæ, and shoulders orange-yellow; tibiæ and tarsi tinged with fuscous; abdomen orange above, with dorsal series of black spots on white patches and lateral series of black points. Fore wing with slight greyish tinge in cell; a yellow fascia on costa extending almost to apex.

Ab. 1. *sciurus*. Tegulæ and thorax greyish; fore wing with the costa yellow towards base only.

Hab. BR. COLUMBIA, Fraser R. (*St. John*), 1 ♂; U.S.A., Georgia, 1 ♂ type *antica*, Colorado, Grote Coll., 2 ♂, 4 ♀. *Exp.*, ♂ 38, ♀ 46 millim.

Egg. Pack. Ann. N. Y. Ac. Sci. viii. p. 73 (1893).

Spherical, flattened at base; glassy and quite smooth under microscope.

Larva. Young: head whitish flesh-colour; eyes on a dusky patch; body whitish, with pale brown piliferous warts; prothoracic shield large, broad, with pale median suture bearing two pairs of warts in front and three behind; the 2nd and 3rd thoracic somites with suboval dorsal warts bearing two unequal black hairs; the

subdorsal and lateral warts each with a shorter white spinulate hair; the abdominal somites with two additional small hemispherical dorsal warts with single dark hair, and two piliferous warts below the lateral ones on the somites without prolegs; the prolegs with dusky patch on outer side; the longest hair is on 1st abdominal somite; the hair spinulate.

Adult: body whitish, concealed by long silky slate-grey hair; the spiracles pale with a narrow black ring; piliferous tubercles pale with dark points at origin of hairs. Food-plant, *Apocynum androsaemifolium*..

1341. *Ammalo eglenensis*. (Plate XXXVII. fig. 5.)

Euchaetes eglenensis, Clem. Proc. Acad. Sci. Phil. 1860, p. 533; Kirby, Cat. Het. p. 236.

Euchaetes inopinatus, H. Edw. Papilio, ii. p. 13 (1882); Kirby, Cat. Het. p. 236.

♂. Very pale brownish grey; palpi orange at base; vertex of head and patches on shoulders and fore coxæ orange; abdomen orange above, with dorsal and two lateral series of black spots. Fore wing with some yellow on base of costa. Hind wing paler, with the cilia white.

Hab. U.S.A., Atlantic States, 1 ♂ Grote Coll. *Exp.* 40 millim.

Egg. Dyar, Psyche, vii. p. 70 (1897).

Rounded, flattened at base; shining deep ochre-yellow; reticulations fine, hexagonal; diam. 7 millim.

Larva. Stage 1. Body pale yellow; warts large, black; feet and shields dark; somites 3-5 & 10 reddish; on prothorax four setæ on shield, one detached, two on pre-spiracular tubercle, two on sub-ventral tubercle; somites 2-3 with three setæ from wart i. *a*, *b*, one seta from ii. *a*, a fine one from ii. *b*, one from iv. and two from vi.; no subprimary setæ on thorax; on abdomen two setæ from i., one from ii., two from iii., one each from iv. & v., two from leg-plate; the subprimary tubercle vi. present on somites 4-5, 10-11 without setæ; vii., viii. present on apodal somites; on somite 12 the subdorsal tubercle with four setæ; lobes of head black; clypeus whitish.

Stages 2-4. Like the adult, but hair-tufts shorter and smaller, only the dorsal ones (i.-iii.) with plumed hair.

Stage 5. Head reddish orange, paler in sutures; ocelli dusky; body orange-red: warts small, black, the hair-tufts of short spinulate and plumose hairs, those from warts i. & ii. on somites 2 and 3 longer; hair sordid silvery grey; leg-plates blackish; tubercles i. to vi. normal, iv. slightly smaller than v.; four warts on somites 2 and 3; cervical shield and anal plate reduced and represented each by four small warts; somite 1 retracted, reduced.

Genus **HÆMANOTA**, nov.Type, *H. rubriceps*.

Proboscis fully developed; palpi upturned to above vertex of head; antennæ of male ciliated; tibiæ with the spurs short; build slender. Fore wing narrow; vein 2 from towards angle of cell; 3, 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 2 from towards angle of cell; 3, 5 from angle; 4 absent; 6, 7 strongly stalked; 8 from middle of cell.

1342. *Hæmanota rubriceps*, n. sp.

♂. Slate-grey; vertex of head and thorax except metathorax scarlet.

Fig. 62.—*Hæmanota rubriceps*, ♂. ½.

Hab. BRAZIL, Espiritu Santo, 1 ♂ type. *Exp.* 30 millim.

Genus **GLAUCOSTOLA**, nov.Type, *G. guttipalpis*.

Proboscis fully developed; palpi upturned, hardly reaching vertex of head; antennæ bipectinate with short branches in both sexes; tibiæ with the spurs moderate. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9 stalked; 10, 11 free; male with an elongate fovea below the cell containing a large brush of hair covered by the greatly lobed costa of hind wing which is truncate at apex. Hind wing with veins 3-5 from angle of cell, 4 absent; 6, 7 from upper angle; 8 from middle of cell, much curved in male.

1343. *Glaucostola guttipalpis*.

Leucopsumis guttipalpis, Wlk. vii. 1649 (1856); Kirby, Cat. Het. p. 180.
Cratoplastis romula, Druce, A. M. N. H. (6) xv. p. 45 (1895); id. Biol. Centr.-Am., Het. ii. p. 356.

Fig. 63.—*Glaucostola guttipalpis*, ♂. ½.

♂. Head fulvous orange; palpi banded with black; antennæ black; thorax greyish fuscous; tegulæ with white patches, the tegulæ and

patagia with whitish edges; legs streaked with white; abdomen grey, with subdorsal bluish-black fasciæ, the extremity orange. Fore wing greyish fuscous tinged with blue; an oblique elliptical white spot beyond the cell between veins 7 and 3; the veins with slight pale streaks. Hind wing black shot with blue; a white fascia from base extending from cell to vein 1 and to near termen.

♀. Fore wing with the spot beyond the cell rather more elongate and curved; hind wing with the fascia narrower.

Hab. COSTA RICA (*Underwood*), 1 ♂ type *romula*, Godman-Salvin Coll.; BRAZIL, type ♀ in Coll. Saunders. *Exp.*, ♂ 38, ♀ 40 millim.

Genus **HYPERTHÆMA**, nov.

Type, *H. sanguineata*.

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of male bipectinate, of female ciliated; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair towards base. Fore wing with vein 3 from close to angle of cell; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from close to angle of cell; 4, 5 stalked; 8 from middle of cell; male with a fold on inner area on underside containing a tuft of long hair.

SECT. I. Fore wing with veins 4, 5 stalked, in female very shortly; hind wing with veins 6, 7 stalked.

1344. *Hyperthæma sanguineata*.

Halesidota sanguineata, Wlk. xxxi. 309 (1864); Kirby, Cat. Het. p. 219.

Elysius cardinalis, Staud. Verh. zool.-bot. Ges. Wien, xxv. p. 123 (1875).

Neritos orbicularis, Mssn. Stubel's Reisen S. Amer., Lep. pp. 32, 131, pl. 4. f. 17 (1890); Kirby, Cat. Het. p. 219.



Fig. 64.—*Hyperthæma sanguineata*, ♂. $\frac{1}{2}$.

♂. Crimson; antennæ, tibiæ, and tarsi brown, the latter with white points at base; abdomen with two lateral series of black spots. Fore wing with black-edged white antemedial spot below the cell, its outer side angled; a black-edged white spot beyond the cell. Hind wing white; the costal area black, expanding into a patch in end of cell; the termen black, emitting slight streaks on the veins and expanding towards tornus, the base of inner area tinged with crimson.

♀. Head, thorax, and fore wing deeper red, the last with the

two white spots reduced: hind wing with the white reduced to a streak in and below lower part of cell.

Hab. COLOMBIA, Bogotá (*Stevens*), 1 ♀ type; ECUADOR, Paramba (*Rosenstock*), 1 ♂; PERU. *Exp.*, ♂ 52, ♀ 56 millim.

SECT. II. Fore wing with veins 4, 5, hind wing with veins 6, 7 from cell.

A. Fore wing crimson-red..... *hæmacta*.

B. Fore wing rufous striated with dark brown *albipuncta*.

*1345. ***Hyperthæma hæmacta*.** (Plate XXXVII. fig. 16.)

Hyperthæma hæmacta, Schaus, A. M. N. H. (7) vii. p. 265 (1901).

♂. Head, thorax, and abdomen crimson; tibiæ and tarsi brown; tegulæ with black points; abdomen with two lateral series of black points. Fore wing crimson-red, tinged with brown towards termen; small round black-edged white spots below middle of cell and beyond discocellulars. Hind wing brown, with slight whitish streak on median nervure and point beyond discocellulars. Underside brown.

♀. Fore wing with the spots smaller; hind wing without the white markings.

Hab. COSTA RICA, 1 ♂, 1 ♀ type† in Coll. Schaus. *Exp.* 40 millim.

1346. ***Hyperthæma albipuncta*.**

Hyperthæma albipuncta, Schaus, A. M. N. H. (7) vii. p. 265 (1901).

♀. Head and thorax rufous irrorated with dark brown; palpi and metathorax tinged with crimson; antennæ, tibiæ, and tarsi brown; abdomen pale crimson, with lateral series of brown points. Fore wing rufous, irrorated and striated with brown; a black-edged white spot below middle of cell with some points above and below it; a black point with whitish centre beyond the cell above vein 4; cilia white at tips.



Fig. 65.—*Hyperthæma albipuncta*, ♀. †.

Hind wing fuscous brown; the cilia white.

Hab. BRAZIL, São Paulo, type† ♀ in Coll. Schaus. *Exp.* 36 millim.

Genus **OCHRODOTA**, nov.

Type, *O. pronapides*.

Proboscis fully developed; palpi upturned, reaching vertex of head; antennæ of female with short branches dilated at extremity and ending in a bristle; tibiæ with the spurs moderate; abdomen dorsally clothed with long hair at base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from below upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from angle of cell; 4, 5 stalked; 6, 7 from upper angle; 8 absent.

1347. *Ochrodota pronapides*.

Zatrephes pronapides, Druce, A. M. N. H. (6) xiii. p. 173 (1894); id. Biol. Centr.-Am., Het. ii. p. 370, pl. 74. f. 3.

♀. Head and thorax reddish brown, the vertex of head and tegulæ yellowish white; legs banded, yellow and brown; abdomen orange-yellow. Fore wing reddish brown; the basal area with numerous somewhat lunulate yellowish-white spots between the costa and vein 1, forming a basal patch conjoined below the cell to a curved antemedial band; small spots above base and middle of



Fig. 66.—*Ochrodota pronapides*, ♀. †.

vein 2; a patch on apical part of costal area formed by two series of small spots with brown-irrorated patches between and beyond them. Hind wing orange-yellow; a fuscous apical patch, interrupted subterminal line, and some spots on termen towards apex.

Hab. PANAMA (*Champion*), 1 ♀ type, Godman-Salvin Coll. *Exp.* 34 millim.

Genus **TESSELLARCTIA**, nov.

Type, *T. semivaria*.

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of male bipectinate, with short branches; tibiæ with the spurs short; abdomen dorsally clothed with rough hair towards base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from just above angle; 6, 7 from upper angle; 8 not reaching costa.

SECT. I. Hind wing with the termen somewhat angled at veins 3 and 1*b*; antennæ of female pectinate.

1348. *Tessellarctia semivaria*.

Halesidota semivaria, Wlk. vii. 1707 (1856); Kirby, Cat. Het. p. 211.

♀. Brown; palpi and base of antennæ banded with yellowish white and crimson; frons with yellowish and crimson band; vertex of head with two yellowish spots; tegulæ with yellowish medial and lateral spots; patagia mostly yellowish, irrorated with crimson; legs banded with yellowish; fore coxæ and femora tinged with crimson; abdomen crimson above, with black dorsal bands; the ventral surface yellowish, with lateral and ventral series of black spots. Fore wing

with basal patch formed by about ten yellowish spots angled in cell ; a triangular patch of some seven spots from middle of costa to



Fig. 67.—*Tesselarctia semivaria*, ♀. $\frac{1}{2}$.

median nervure ; two discoidal points ; postmedial and subterminal series of four or five irregular spots from costa on an apical yellow patch ; medial, two postmedial, and a subterminal series of blackish spots from the yellow spots to inner margin. Hind wing rather more fuscous brown, with some yellowish at base and five points beyond the cell ; cilia yellowish from vein 4 to submedian fold ; underside with basal and medial yellowish patches on costa and a point in cell.

♂. Hind wing yellowish white, with some brown on inner area and termen and slight streaks on the veins below apex.

Hab. BRAZIL, type in Mus. Oxon., Sta. Catherina, Rio Grande do Sul, N. Friburgo, Castro Paraña, 1 ♂. *Exp.* 44 millim.

SECT. II. Hind wing with the termen not angled at middle.

- | | |
|-------------------------|----------------------|
| A. Abdomen crimson..... | <i>ursina</i> . |
| B. Abdomen yellow | <i>cinerascens</i> . |

1349. *Tesselarctia ursina*.

Phæoptera ursina, Schaus, P. Z. S. 1892, p. 281 ; id. Am. Lep. pl. iii. f. 15.



Fig. 68.—*Tesselarctia ursina*, ♂. $\frac{1}{2}$.

Head and thorax dirty white ; palpi brown, banded with orange-red ; antennæ and patches on vertex of head and tegulæ brown ; patagia with small brown spots ; metathorax brown ; legs banded with black ; fore legs scarlet above ; abdomen scarlet, with dorsal

and lateral series of black spots, the ventral surface white. Fore wing red-brown; a yellowish-white patch at base conjoined below the cell to a curved band from costa and produced on inner margin; an antemedial spot on costa, usually with a point below it in cell and often a point below vein 1; a medial spot on costa usually present; a discoidal lunule, sometimes red, with a spot beyond it and one above it on costa; a subterminal series of irregular spots between vein 7 and submedian fold; a terminal series of short streaks on the veins. Hind wing brown, with whitish marks in and beyond cell and a slight red mark at base of inner margin; a series of white points on the cilia; underside with white basal and post-medial patches on costal area.

Hab. BRAZIL, Rio Janeiro, 1 ♂. *Exp.*, ♂ 47, ♀ 62 millim. Type † in Coll. Schaus.

1350. *Tessellarctia cinerascens*. (Plate XXXVII. fig. 9.)

Halesidota cinerascens, Wlk. iii. 742 (1855); Kirby, Cat. Het. p. 212.

♀. Head and thorax white, palpi marked with fuscous at sides, branches of antennæ black, back of head yellowish with two short fuscous streaks; tegulæ with slight fuscous band, patagia and legs streaked with fuscous; abdomen orange, with conjoined dorsal fuscous diamond-shaped marks on basal segments, the terminal segments with points and segmental lines, the ventral surface white with black segmental lines and yellow sublateral spots. Fore wing white; a subbasal black point below the cell; an antemedial dentate fuscous line, strong and oblique to median nervure, then inwardly oblique and obsolescent; an oblique bar across end of cell with slight streak on costa above it, and obsolescent oblique band from it to inner margin; postmedial spots on costa and above vein 5 with traces of an oblique series from it to inner margin; a subterminal series of spots, the four towards costa and one above inner margin rather <-shaped, the spots above veins 2 and 3 larger and those above veins 2, 4, 6 placed nearer the termen; a terminal series of spots. Hind wing fuscous, with wedge-shaped white spot below costa towards apex; the underside with whitish marks in the interspaces.

Hab. BRAZIL, Rio Janeiro, 1 ♀ type, Petropolis. *Exp.* 60 millim.

Genus **PACHYDOTA**, nov.

Type, *P. iodea*.

Proboscis fully developed; palpi upturned, reaching vertex of head; antennæ of male bipectinate with moderate branches, of female with short branches; tibiæ with the spurs short; abdomen dorsally clothed with rough hair towards base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle or shortly stalked with 7, 8, 9; 10, 11 stalked. Hind wing with vein 3 from angle of cell; 4, 5 shortly stalked; 6, 7 from upper angle or shortly stalked; 8 from near end of cell.

A. Fore wing grey-purple.

a. Abdomen orange at base.

a¹. Abdomen without black dorsal bands *iodea*.b¹. Abdomen with black dorsal bands *saduca*.b. Abdomen black at base *albiceps*.

B. Fore wing orange.

a. Abdomen with dorsal black patch *striata*.b. Abdomen without dorsal black patch *nervosa*.1351. *Pachydota iodea*.*Phegoptera iodea*, Herr.-Schäff. Aussereur. Schmett. f. 432 (1855); Kirby, Cat. Het. p. 207.*Pseudapistosia saduca*, Druce, Biol. Centr.-Am., Het. ii. p. 381 (part.)

Head and thorax black; vertex of head white; coxæ orange; abdomen orange, with dorsal series of black patches from 2nd segment diminishing to extremity, a lateral series of spots, the

Fig. 69.—*Pachydota iodea*, ♂. $\frac{1}{2}$.

ventral surface black. Fore wing grey-purple; oblique olive-brown subbasal and antemedial bands; an oblique postmedial band expanding into a large discoidal patch and conjoined beyond end of cell to a band from vein 5 to inner margin; a wedge-shaped band from costa before apex to below vein 4; an apical patch with a sinuous line from it to vein 3; a curved mark above tornus. Hind wing brown, the area in, below, and just beyond the cell semi-hyaline, the inner area orange.

Hab. MEXICO, Jalapa (*Trujillo*), 1 ♀, Godman-Salvin Coll.; JAMAICA (*Martin*), 1 ♂, 1 ♀. *Exp.* 62 millim.

1352. *Pachydota saduca*.

Pseudapistosia saduca, Druce, A. M. N. H. (6) xv. p. 46 (1895), ♀; id. Biol. Centr.-Am., Het. ii. p. 381, pl. 76. f. 2.

♀. Head and thorax black; vertex of head white; coxæ orange; abdomen orange with black bands, the hair on dorsum from 2nd to 4th segment black, the ventral surface black. Fore wing greyish purple; subbasal and antemedial oblique olive-brown bands; two postmedial bands conjoined at lower end of cell, where the 2nd is angled outwards; a sinuous band from costa before apex to tornus, excurved at middle and expanding at costa and tornus; a terminal

patch from apex to vein 3. Hind wing fuscous black, with the cell and the area just below and beyond it whitish; a little orange at base of inner margin.

Hab. COSTA RICA (*Underwood*), 2 ♀ type, Godman-Salvin Coll.; COLOMBIA, R. Dagua; BOLIVIA, R. Suapi. *Exp.* 62 millim.

1353. *Pachydota albiceps*.

Eucerea albiceps, Wlk. vii. 1640 (1856); Kirby, Cat. Het. p. 199.

Pseudapistosia saduca, Druce, A. M. N. H. (6) xv. p. 46 (1895), ♂; id. Biol. Centr.-Am., Het. ii. p. 381, pl. 76. f. 1.

Head and thorax black; vertex of head white; coxæ orange; abdomen orange with black segmental lines, an orange point at base, the hair on dorsum of first three segments black. Fore wing greyish purple; oblique olive-brown subbasal and antemedial bands; an oblique postmedial band conjoined at lower end of cell to a band from vein 5 to inner margin; a sinuous subterminal band from costa to termen above tornus, expanding towards costa. Hind wing fuscous brown; the interspaces in, below, and beyond the cell semihyaline white.

Ab. 1. Vertex of head yellowish.—St. Lucia.

Hab. COSTA RICA (*Zurcher*), 1 ♂, type *saduca*, Godman-Salvin Coll.; PANAMA, Chiriqui; ST. LUCIA, 2 ♂, 1 ♀; VENEZUELA, Aroa; SURINAM; BRAZIL, Rio Janeiro. *Exp.* 52 millim.

1354. *Pachydota striata*.

Lophocampa striata, Dognin, Ann. Soc. Ent. Belge, xxxvii. p. 424 (1893); id. Lép. Loja, pl. 11. f. 1.

♂. Orange-yellow; antennæ black; legs streaked with black; abdomen dull black above except 1st and terminal segments, the ventral surface with some black at base, the last four segments tinged with black. Fore wing with yellowish-white fascia extending on costa to beyond middle and above inner margin to middle; the veins, except discocellulars and subcostals towards apex, black; black streaks on basal half of costa and in and below cell. Hind wing with the veins of terminal area blackish; a blackish patch at tornus. Underside of both wings with the veins black; vein 8 from near angle of cell.

Hab. COLOMBIA; VENEZUELA, Merida; ECUADOR, Loja, 1 ♀. *Exp.* 62 millim. Type † in Coll. Dognin.

1355. *Pachydota nervosa*.

Lophocampa nervosa, Feld. Reis. Nov. pl. 101. f. 6 (1874); Kirby, Cat. Het. p. 207.

♀. Orange; antennæ black; tibiæ and tarsi striped with black. Fore wing with the base yellowish white, extending on costa to middle and on vein 1 to near middle; the veins, cell, and sub-

median fold streaked with black, except the veins enclosing end of cell and subcostal veins.

♂. Abdomen with some black at base on ventral surface; hind wing with the inner margin fringed with dark brown hair.

Hab. COLOMBIA, Bogotá; VENEZUELA, Merida; ECUADOR, St. Inez (Buckley), 1 ♀, Loja. *Exp.* 64 millim.

Genus CARATHIS.

Type.

Carathis, Grote, Proc. Ent. Soc. Philad. v. p. 253 (1865) *gortynoides*.

Proboscis fully developed; palpi upturned, reaching vertex of head; antennæ of male bipectinate with moderate branches, of female with short branches; tibiæ with the spurs moderate; thorax and abdomen at base dorsally clothed with rough hair. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 7, 8, 9 stalked; 10, 11 stalked. Hind wing with vein 3 from near angle of cell; 4, 5 very shortly stalked; 6, 7 from upper angle; 8 absent.

- | | |
|--|----------------------|
| A. Hind wing yellow | <i>palpalis</i> . |
| B. Hind wing fuscous. | |
| <i>a.</i> Tegulæ with white spots | <i>byblis</i> . |
| <i>b.</i> Tegulæ without white spots | <i>gortynoides</i> . |

1356. *Carathis palpalis*. (Plate XXXVII. fig. 12.)

Halesidota palpalis, Wlk. iii. 735 (1855); Kirby, Cat. Het. p. 218.

♂. Black-brown; palpi banded with yellow; vertex of head white with brown point, tegulæ and patagia with white patches; pectus, legs, and abdomen orange-yellow; tibiæ and tarsi brown, the tibiæ with white bands. Fore wing with white patch at base from costa to submedian fold formed by white spots and crossed by a narrow waved yellow band defined by brown lines; medial waved yellow spots on costa and inner margin, with larger white spots on each side of them; a patch on terminal area from costa to vein 2 formed of small white spots with yellowish spots between them, defined by fine brown lines and leaving a brown spot on termen between veins 5 and 6. Hind wing orange-yellow.

Hab. JAMAICA (Gosse), 4 ♂ type. *Exp.* 46 millim.

*1357. *Carathis byblis*.

Ameles byblis, Schaus, P. Z. S. 1892, p. 279; id. Am. Lep. pl. ii. f. 2.

♂. Sepia-brown; upper part of frons and vertex of head, large medial and lateral spots on tegulæ, the outer part of patagia, and a spot on mesothorax yellowish white; pectus and legs pale orange-yellow, the latter banded with brown; abdomen dorsally blackish, laterally orange somewhat intersecting the black area, ventrally yellowish white; lateral and sublateral series of black spots, ventral black points on two subterminal segments. Fore wing with a basal patch formed by nine or ten yellowish-white spots, its outer edge excurved at middle and followed by a point in cell; two medial

pairs of spots below costa with an orange point between them, and a pair of spots on inner margin with an orange striga between them; a patch of irregular spots on terminal area from just below costa to vein 2 formed by some rounded spots, followed by two irregular marks with a round spot between them, then some irregular spots and a terminal series of points except above vein 5. Hind wing blackish, yellowish at base.

Hab. BRAZIL, Rio Janeiro, type ♂ in Coll. Schaus. *Exp.* 40 millim.

1358. *Carathis gortynoides*.

Carathis gortynoides, Grote, Proc. Ent. Soc. Philad. v. p. 253, pl. iv. f. 8 (1865); Kirby, Cat. Het. p. 565.

♂. Dark red-brown; a white line across vertex of head and two spots on back of head; patagia with large white spots; abdomen paler below. Fore wing with cluster of whitish spots on basal costal area with yellow spots between them; two spots on middle of costa with yellow spot between them; a yellow spot on middle of inner



Fig. 70.—*Carathis gortynoides*, ♂. †.

margin; a subterminal series of spots from costa to vein 2, with other spots inside the medial part of series. Hind wing fuscous brown.

Hab. CUBA, 1 ♂. *Exp.* 36 millim. Type in Mus. Philadelphia.

Genus **NEOZATREPHES**.

Neozatrephes, Druce, P. Z. S. 1893, p. 286 Type. *telesilla*.

Proboscis fully developed; palpi upturned and not reaching vertex of head, the 3rd joint short; antennæ of male bipectinate, with short branches; tibiae with the spurs short; abdomen clothed with rough hair towards base. Fore wing rather long and narrow, the costa slightly dilated just beyond middle; the cell with the lower extremity very short, the upper produced; vein 2 from towards angle, 3 from before angle; 5 above angle; 6 from below upper angle; 7, 8, 9 stalked; 10, 11 shortly stalked from well before angle. Hind wing with veins 3 and 5 from angle of cell; 4 absent; 6, 7 from upper angle; 8 from close to end of cell.

*1359. *Neozatrephes telesilla*.

Neozatrephes telesilla, Druce, P. Z. S. 1893, p. 287, pl. 19. f. 5.

♂. Head and thorax orange and brown; fore legs banded with brown and tinged with crimson in front; abdomen orange-red. Fore wing thinly scaled and semihyaline except the basal and costal areas; the ground-colour orange-yellow, with series of obscure scarlet spots; six rather broad brown bands with irregularly waved

edges, the 1st very obscure, the 4th and 5th angled below costa, the 6th terminal with a silvery white line on it. Hind wing semihyaline yellowish.



Fig. 71.—*Neozatrephes telesilla*, ♂. $\frac{1}{2}$.

Hab. ECUADOR, Sarayacu (*Buckley*), 1 ♂ type† in Coll. Druce. *Exp.* 44 millim.

Genus NEZULA.

Nezula, Schaus, J. N. Y. Ent. Soc. iv. p. 137 (1896) Type. *grisea*.

Proboscis fully developed; palpi upturned, slender, reaching above vertex of head; antennæ of male minutely serrate, ciliated and with long bristles; hind tibiæ with the medial spurs absent. Fore wing long and narrow, especially in male; vein 2 from middle of cell, curved at base; 3, 4, 5 from angle; 4, 5 approximated for some distance; 6 from upper angle; 7, 8, 9 stalked; 10, 11 stalked. Hind wing with the inner area greatly dilated and the tornus lobed in male; vein 2 from towards angle of cell; 3 and 5 on a long stalk, 4 absent; 6, 7 coincident in male, stalked in female; 8 from middle of cell.

1360. *Nezula grisea*.

Nezula grisea, Schaus, J. N. Y. Ent. Soc. iv. p. 137 (1896).

Grey-brown; palpi at base, head, and basal joint of antennæ



Fig. 72.—*Nezula grisea*, ♂. $\frac{1}{2}$.

orange-yellow. Hind wing with a slight bluish tinge, and a semihyaline streak below the cell.

Hab. VENEZUELA, Aroa, 1 ♂; SURINAM. *Exp.*, ♂ 34, ♀ 36 millim. Type † in Coll. Schaus.

Genus DIALEUCIAS, nov.

Type, *D. pallidistriata*.

Proboscis fully developed; palpi upturned, reaching vertex of head, the 3rd joint short; antennæ of male serrate and fasciculate; tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing with

vein 2 from towards angle of cell, 3 from close to angle; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 stalked. Hind wing with veins 3 and 5 from angle of cell, 4 absent; 6, 7 from upper angle; 8 from middle of cell.

1361. *Dialeucias pallidistriata*, n. sp.

♂. Pale brown; palpi orange; the 3rd joint black; vertex of head with two orange spots; coxæ orange; abdomen dorsally tinged with fuscous, the extremity and ventral surface yellow.

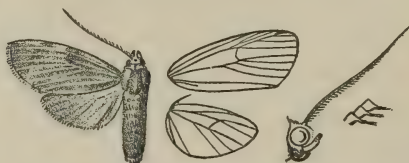


Fig. 73.—*Dialeucias pallidistriata*, ♂. ¾.

Fore wing somewhat reddish brown, the veins, cell, and submedian fold with prominent pale streaks; faint traces of pale shades from costa beyond middle to middle of inner margin and termen above tornus.

Hab. AMAZONS, Olivencas (*Michelli*), 1 ♂ type. *Exp.* 34 millim.

Genus **SYNTARCTIA**, nov.

Type, *S. testacea*.

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of male bipectinate, of female serrate and fasciculate; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing moderately broad; veins 3, 4, 5 from angle of cell; 6 shortly stalked with 7, 8, 9; 10, 11 stalked, and very shortly stalked with 7, 8, 9, sometimes from cell in female. Hind wing with the cell long; vein 2 from long before angle; 3 from angle; 4, 5 stalked; 6, 7 shortly stalked; 8 present as an oblique spur not reaching costa.

1362. *Syntarctia testacea*.

Halisidota testacea, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 668, pl. 9. f. 32 (1877); Kirby, Cat. Het. p. 211.

Halisidota ænone, Butl. Trans. Ent. Soc. 1878, p. 50, pl. 3. f. 3 (1878); Kirby, Cat. Het. p. 211.

Very pale brownish ochreous. Fore wing with about seven



Fig. 74.—*Syntarctia testacea*, ♂. ¾.

minutely and rather irregularly dentate fuscous lines; the two medial lines running close together below the angle of cell; two black points on discocellulars; the two subterminal lines angled inwards above vein 5; a series of somewhat

diamond-shaped marks just inside termen, with black points on the two below apex. Hind wing yellowish semihyaline.

Hab. SURINAM, type ♀ in Coll. Staudinger; AMAZONS, R. Jurua, R. Purus (*Trail*), 2 ♂, 2 ♀, type *ænone*, Lr. Amazons (*Austen*), 1 ♂, 1 ♀. *Exp.*, ♂ 30, ♀ 34 millim.

Genus BARITIUS.

	Type.
<i>Baritius</i> , Wlk. iii. 712 (1855)	<i>discalis</i> .
<i>Thysanoprymna</i> , Butl. A. M. N. H. (4) xv. p. 400 (1875)	<i>pyrrhopyga</i> .
<i>Pseudeucereon</i> , Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 652 (1877)	<i>eleuthera</i> .
<i>Grapheia</i> , Schaus, P. Z. S. 1894, p. 232	<i>marmorea</i> .

Proboscis moderately developed; palpi upturned, not reaching vertex of head; antennæ bipectinate, with moderate branches; tibiæ with the spurs moderate; abdomen dorsally clothed with long hair at base. Fore wing with vein 3 from long before angle of cell; 4, 5 from angle; 6 from below or from upper angle; 7, 8, 9 stalked; 10, 11 stalked. Hind wing with vein 3 from angle of cell; 4, 5 stalked; 6, 7 from upper angle; 8 from close to angle of cell or absent.

SECT. I. Hind femora of male with tuft of long hair from base above: hind wing with fold on inner area containing rough scales on underside; vein 8 from near end of cell.

1363. *Baritius brunnea*, n. sp.

♂. Dull brown; palpi yellow in front; coxæ and femora above yellow; abdomen fuscous, the extremity and ventral surface yellow. Fore wing with obscure oblique dark antemedial band, medial band



Fig. 75.—*Baritius brunnea*, ♂. ♀.

from cell to inner margin, discoidal lunule, and postmedial band excurved between veins 5 and 3, then retracted to lower angle of cell and sinuous to inner margin. Hind wing with the rough scales in fold orange.

Hab. AMAZONS, R. Jurua, 1 ♂ type, Rio Grande do Sul, 1 ♂. *Exp.* 32 millim.

SECT. II. Male with the hind legs and hind wing normal.

A. Abdomen black.

- a. Abdomen with the last two segments scarlet *pyrrhopyga*.
- b. Abdomen with scarlet bands on last four segments and lateral spots on 2nd and 3rd *superba*.

B. Abdomen yellow, tinged with crimson above.

- | | |
|--|-------------------|
| a. Fore wing with large grey patch on terminal half of inner area..... | <i>marmorea.</i> |
| b. Fore wing with triangular brown patch from vein 3 to tornus | <i>discalis.</i> |
| c. Fore wing without patch at tornus | <i>eleuthera.</i> |

1364. *Baritius pyrrhopyga*. (Plate XXXVII. fig. 11.)

Eucerea pyrrhopyga, Wlk. xxxi. 105 (1864); Kirby, Cat. Het. p. 203.

♂. Head, thorax, and abdomen black; throat and fore coxæ scarlet; abdomen with the two terminal segments scarlet, the anal tuft orange. Fore wing purplish fuscous black; traces of an oblique antemedial line below the cell and of a curved postmedial line; a diffused discoidal black patch. Hind wing hyaline, the veins, costa, and terminal area black, the last with irregularly dentate inner edge.

Hab. BRAZIL, 1 ♂ type. *Exp.* 48 millim.

1365. *Baritius superba*.

Aclytia superba, Schaus, Ent. Am. v. p. 89 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 365, pl. 73. f. 19; Kirby, Cat. Het. p. 160.

Thysanoprymna cepiana, Druce, P. Z. S. 1893, p. 287.

♂. Head and thorax black; throat and coxæ scarlet; abdomen scarlet, with black segmental lines and dorsal patch at base extending to third segment, the anal tuft orange, the ventral surface black. Fore wing leaden black, with traces of oblique line from



Fig. 76.—*Baritius superba*, ♂. 1.

origin of vein 2 to inner margin, and of a postmedial line angled outward to below apex, then incurved to below end of cell and inner margin. Hind wing hyaline, the veins, costal, and terminal areas black, the last with irregular inner edge.

Hab. MEXICO, Coatepec, Jalapa, Vera Cruz; COSTA RICA, Can delaria Mts. (*Underwood*), 1 ♂, Godman-Salvin Coll.; PANAMA, Chiriqui (*Trotsch*); VENEZUELA, type † *cepiana* in Coll. Druce. *Exp.* 50 millim. Type † in Coll. Schaus.

1366. *Baritius marmorea*. (Plate XXXVII. fig. 8.)

Grapheia marmorea, Schaus, P. Z. S. 1894, p. 232.

♀. Head, tegulæ, and patagia orange-yellow, the last two edged

with brown, and the tegulæ with black points; palpi brown, orange at base and with crimson points at sides; antennæ brown; thorax blackish; legs orange tinged with crimson and banded with brown; abdomen yellow, dorsally crimson except at extremity. Fore wing orange-yellow, with numerous ill-defined brown annulate bands with irregular crimson centres; an antemedial more prominent band edged by brown lines; a black discoidal lunule, with brownish mark on costa above it; the terminal area from apex to inner margin at antemedial band brown striated with lilacine white, with a large postmedial patch from vein 3 to inner margin connected by streaks with the subterminal line, which is dilated into a spot below costa and is excurved between veins 7 and 3. Hind wing semihyaline yellowish, the veins, a terminal line, and the inner area crimson; vein 8 from close to angle of cell.

Hab. PANAMA, Chiriqui, 1 ♀; VENEZUELA, Aroa, type † ♀ in Coll. Schaus; BRAZIL, Rio Grande do Sul. *Exp.* 50 millim.

1367. *Baritius discalis*. (Plate XXXVII. fig. 25.)

Baritius discalis, Wlk. iii. 713 (1855); Kirby, Cat. Het. p. 196.

♀. Orange; head and tegulæ yellow, the palpi in front and antennæ brown, tegulæ edged with dark brown; abdomen suffused with crimson above. Fore wing with maculate yellow subbasal, antemedial, medial, postmedial, and subterminal bands edged with fine waved brown lines, the spots with orange centres, the antemedial band with stronger outer edging; a maculate band from costa to median nervure before the medial band, which has two small spots beyond it at angles of cell and its spot above vein 2 displaced outwards, the postmedial and subterminal bands bent outwards at vein 5; a dark-brown patch from vein 3 to tornus and a subterminal spot above vein 5; a terminal series of dark-edged lunules; cilia chequered brown and orange. Hind wing strongly suffused with crimson, the cilia yellow.

Hab. BRAZIL, Rio Janeiro, 1 ♀ type. *Exp.* 50 millim.

1368. *Baritius eleuthera*.

Bombyx eleuthera, Stoll, Pap. Exot. iv. pl. 371. A (1781); Kirby, Cat. Het. p. 201.

♂. Pale yellow; head and thorax mixed with brown; abdomen suffused with crimson above. Fore wing irrorated with brown, with numerous brown-edged whitish lunulate and rounded spots; an indistinct antemedial series with obscure brownish band beyond it forking towards costa; a curved medial series with spot before it above vein 1; postmedial and subterminal series, the former bent out to tornus, and the latter to termen above tornus; an oblique brownish band from costa beyond middle to termen above tornus; a dark subterminal spot above vein 5; a waved terminal line and series of brown spots on cilia. Hind wing with the submedian area and termen suffused with pale pink; vein 8 absent.

Hab. SURINAM; ECUADOR (*Buckley*); BOLIVIA, R. Songo (*Garlepp*), 2 ♂. *Exp.* 34 millim.

Genus TRICYPHA.

Type.

<i>Tricypha</i> , Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 654 (1877)	<i>furcata</i> .
<i>Mænoleneura</i> , Butl. Trans. Ent. Soc. 1878, p. 56	<i>furcata</i> .
<i>Romanoffia</i> , Heyl. C.R. Soc. Ent. Belge, xxviii. p. xciv (1884) ...	<i>imperialis</i> .

Proboscis fully developed; palpi upturned, the 2nd joint reaching vertex of head, the 3rd moderate; antennæ of male with moderate branches, of female with short branches; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing of female with vein 3 from before angle of cell; 4, 5 shortly stalked; 6 from below upper angle; 7, 8, 9, 10 stalked; 11 free; male with a large semicircular patch of thinly-scaled membrane in and beyond the cell, the neuuration greatly distorted; veins 3, 4 from angle of cell; 5 from above angle, anastomosing just before termen with 6 which is strongly downcurved to meet it; 7 from 6; 8, 9 stalked from 6; 10 from angle of cell. Hind wing with vein 3 from near angle of cell; 4, 5 shortly stalked; 6, 7 coincident; 8 from towards end of cell.

A. Abdomen orange below	<i>imperialis</i> .
B. Abdomen grey-brown below	<i>furcata</i> .

1369. *Tricypha imperialis*.

Romanoffia imperialis, Heyl. C.R. Soc. Ent. Belge, xxviii. p. xciv (1884); id. Rom. Mém. ii. p. 173, pl. 9. f. 1; Kirby, Cat. Het. p. 877.

Mænoleneura anomala, Druce, Biol. Centr.-Am., Het. i. p. 136, & ii. p. 402, nec Butl.

♂. Pale grey-brown; basal joint of palpi, back of head, throat, pectus, and coxæ orange; abdomen orange, the dorsal surface grey-brown, reduced to spots on terminal segments ending with the subterminal one, lateral and ventral series of dark points. Fore wing



Fig. 77.—*Tricypha imperialis*, ♂. $\frac{1}{2}$.

with obscure darker brown antemedial, medial, postmedial, and subterminal bands from the thinly-scaled area to inner margin.

♀. Fore wing with the bands extending to subcostal nervure.

Hab. MEXICO, Coatepec (*Brooks*), 1 ♂; PANAMA, Chiriqui, 1 ♂, Bugaba (*Champion*), 1 ♀, Godman-Salvin Coll.; AMAZONS, Santarem, Rio Negro, Thomar. *Exp.*, ♂ 38, ♀ 44 millim.

1370. *Tricypha furcata*.

Tricypha furcata, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 655, pl. 9. f. 23 (1877); Kirby, Cat. Het. p. 319.

Mænoleneura anomala, Butl. Trans. Ent. Soc. 1878, p. 57; Kirby, Cat. Het. p. 319.

Grey-brown; 1st joint of palpi, back of head, throat, and coxæ orange; abdomen with lateral orange stripes expanding dorsally and reducing the grey-brown to spots on terminal segments. Fore wing with obscure dark-brown waved antemedial, medial, post-medial, and subterminal bands interrupted at the thinly-scaled area.

♀. Fore wing with the bands extending to subcostal nervure.

Hab. SURINAM; AMAZONS, Rio Purus (*Trail*), 1 ♂, 1 ♀, type *anomala*. *Exp.* 36 millim.

Genus PELOCHYTA.

	Type.
<i>Pelochyta</i> , Hübn. Verz. p. 172 (1827)	<i>arontes</i> .
<i>Sontia</i> , Wlk. vii. 1641 (1856)	<i>arontes</i> .

Proboscis fully developed; palpi upturned, reaching vertex of head, the 3rd joint well developed; antennæ of male bipectinate with moderate branches, of female with short branches; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 3 from angle of cell; 4, 5 shortly stalked; 6, 7 from upper angle; 8 from beyond middle of cell.

- A. Abdomen crimson, with black bands *nigrescens*.
- B. Abdomen orange or yellowish, with black bands.
 - a. Head and tegulæ orange.
 - a¹. Frons with pair of black points.
 - a². Fore wing with the veins streaked with black *cervina*.
 - b². Fore wing with the veins not streaked with black ... *cinerea*.
 - b¹. Frons without pair of black points *arontes*.
 - b. Head and thorax dark brown *umbrata*.

1371. *Pelochyta nigrescens*.

Eucereon nigrescens, Dognin, Bull. Soc. Ent. Fr. lx. p. clxxv (1891); id. Lép. Loja, pl. 8. f. 7; Kirby, Cat. Het. p. 905.

♂. Dark brown; vertex of head with two crimson spots; neck with broad crimson ring except above; metathorax with crimson patch; abdomen crimson above, with triangular brown dorsal patch on basal segment reduced to spots on terminal, the ventral surface brown. Fore wing with the area in and below middle of cell thinly scaled. Hind wing with the interspaces thinly scaled except towards termen.

Hab. ECUADOR, Loja, type ♀ in Coll. Dognin; BOLIVIA, Songo (*Garlepp*), 1 ♂; PERU, Chanchamayo. *Exp.* 44 millim.

1372. *Pelochyta cervina*. (Plate XXXVII. fig. 7.)

Euhalisidota cervina, H. Edw. Papilio, iv. p. 77 (1884); Druce, Biol. Centr.-Am., Het. i. p. 94; Kirby, Cat. Het. p. 209.

Head, thorax, and abdomen orange; palpi with black lateral

spots on 1st and 2nd joints, the 3rd joint black; frons with pair of black spots; upper part of frons, basal joint of antennæ, vertex of head, tegulæ, shoulders, and patagia with black spots, the tegulæ with pair on each; coxæ with black spots; abdomen with subdorsal series of black patches except on basal segments, often meeting dorsally, two lateral series of spots, four spots on ventral surface, the two middle ones larger. Fore wing brownish orange, four black points on an orange patch at base; the veins with blackish streaks. Hind wing orange-yellow.

Ab. 1. Hind wing brown, the costal and inner areas yellow.—Guatemala.

Ab. 2. Abdomen with the hair at base tinged with brown; fore wing darker; hind wing black-brown.

Hab. MEXICO, Jalapa (*Hoega*), 1 ♂, Misantla (*Trujillo*), 1 ♀; GUATEMALA (*Rodriguez, Champion*), 2 ♂, 2 ♀, Godman-Salvin Coll. *Exp.*, ♂ 52, ♀ 58 millim.

1373. *Pelochyta cinerea*. (Plate XXXVII. fig. 24.)

Halesidota cinerea, Wlk. iii. 741 (1855); Kirby, Cat. Het. p. 206.

Pseudapistosia lystra, Druce, Biol. Centr.-Am., Het. i. p. 101 (1884); Kirby, Cat. Het. p. 207.

Head, tegulæ, and shoulders orange; palpi with black marks on the joints at sides; frons with pair of black spots, the upper part of frons, basal joint of antennæ, vertex of head, tegulæ, shoulders, and base of patagia with black spots, the tegulæ with a pair on each; thorax yellowish brown; pectus and greater part of legs orange, fore coxæ with black spots; abdomen orange, with the hair towards base fuscous, the other segments with dorsal black bands, a lateral series of black spots, the ventral surface rarely with fuscous patches. Fore wing yellowish brown with a slight purplish tinge, a slight orange patch with four black points on it at base. Hind wing pale yellowish, tinged with brown towards termen.

Ab. 1. *lystra*. Abdomen with ventral fuscous patches on medial segments; fore wing darker violaceous brown; hind wing with the terminal area more strongly tinged with brown.

Hab. COSTA RICA (*Van Patten, Zurcher, Underwood*), 2 ♂, 3 ♀; PANAMA, Chiriqui (*Champion*), 1 ♀ type *lystra*, Godman-Salvin Coll.; COLOMBIA, Bogotá (*Vergara*), 1 ♂; VENEZUELA, 1 ♂, 3 ♀; BRAZIL, 2 ♂ type; ECUADOR, Paramba (*Rosenberg*), 1 ♂; BOLIVIA, R. Suapi, Corvico. *Exp.*, ♂ 50, ♀ 62 millim.

1374. *Pelochyta arontes*.

Sphinx arontes, Stoll, Pap. Exot. iv. pl. 382. E (1781); Kirby, Cat. Het. p. 202.

Bombyx neuroptera, Sepp,* Surin. Vlind. i. pl. 38 (1848); Kirby, Cat. Het. p. 201.

Halesidota degenera, Wlk. iii. 742 (1855); Druce, Biol. Centr.-Am., Het. i. p. 101; Kirby, Cat. Het. p. 206.

♂. Head, tegulæ, and shoulders orange, the 1st and 2nd joints

of palpi with black patches at sides; upper part of frons, vertex of head, tegulæ, shoulders, and base of patagia with black points, the tegulæ with a pair on each; thorax purplish brown, the patagia with dark streak; pectus and coxæ orange, the fore coxæ with black spots; abdomen orange, the hair towards base blackish, the terminal



Fig. 78.—*Pelochyta arontes*, ♂. 1.

segments with paired subdorsal black patches, two lateral and a ventral series of spots. Fore wing purplish brown, the veins dark; a small orange patch with four black points on it at base of costa. Hind wing tinged with fuscous.

♀. Thorax and fore wing paler; hind wing yellowish, tinged with brown towards termen.

Hab. GUATEMALA (*Rodriguez, Champion*), 3 ♂, 1 ♀; COSTA RICA (*Underwood*), 3 ♂, 3 ♀; PANAMA (*Champion*), 2 ♂, Godman-Salvin Coll.; VENEZUELA, 1 ♀, type *degenera*, Pto. Cabello. *Exp.*, ♂ 36, ♀ 48 millim.

1375. *Pelochyta umbrata*, n. sp. (Plate XL. fig. 9.)

♂. Dark brown; vertex of head with black point; tegulæ each with a pair of black points; shoulders and patagia with points; abdomen yellowish grey, the hair on base of dorsum brown, the terminal segments banded with black; a lateral series of points; wings uniform dark brown; hind wing slightly semihyaline along median nervure.

Hab. BOLIVIA, Chaco (*Garlepp*), 1 ♂ type. *Exp.* 46 millim.

Genus ELYSIUS.

	Type.
<i>Elysius</i> , Wlk. iii. 713 (1855)	<i>conspersus</i> .
<i>Onythes</i> , Wlk. iii. 749 (1855)	<i>pallidicosta</i> .
<i>Sychesia</i> , Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 653 (1877)	<i>dryas</i> .
<i>Pseudapistosia</i> , Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 665 (1877)	<i>umber</i> .

Proboscis fully developed; palpi upturned, the 2nd joint reaching vertex of head, the 3rd short and somewhat porrect; antennæ bipectinate; legs rather long, the spurs moderate; abdomen dorsally clothed with long hair at base. Fore wing rather short and broad; vein 3 from long before angle of cell; 4, 5 from angle, or 5 from just above angle; 6 from or from below upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with the cell long; vein 3 from before angle; 4, 5 from angle or separate; 6, 7 from upper angle; 8 present or absent.

SECT. I. (*Sychesia*). Antennæ of male with long branches; hind wing with vein 8 absent.

1376. *Elysius dryas*.

Bombyx dryas, Cram. Pap. Exot. i. pl. 70. C (1775); Kirby, Cat. Het. p. 206.

Halesidota basipennis, Wlk. vii. 1707 (1856); Kirby, Cat. Het. p. 212.

Sychesia fimbria, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 654, pl. ix. f. 22 (1877); Druce, Biol. Centr.-Am., Het. i. p. 94; Kirby, Cat. Het. p. 206.

Phæoptera subtilis, Butl. Trans. Ent. Soc. 1878, p. 51.

Dark brown; back of head with two orange points; pectus and coxæ with orange patches; abdomen orange above, with four subdorsal black spots on terminal segments, the terminal segment and ventral surface dark brown. Fore wing irrorated with yellowish-white scales, more prominent on nervures; a whitish spot on angle of discocellulars. Hind wing pale orange, deeper on inner area; the apical area broadly brown, tapering to tornus.



Fig. 79.—*Elysius dryas*, ♂. 1.

Hab. W. INDIES; GUATEMALA (*Champion, Rogers*); COSTA RICA (*Underwood*), Godman-Salvin Coll.; ECUADOR; SURINAM; AMAZONS, Rio Sapo (*Trail*), type *subtilis*, Pará (*Bates*), type *basipennis* in Mus. Oxon.; BOLIVIA, Songo, Suapi. *Exp.* 44–54 millim. Type † *fimbria* in Coll. Staudinger.

Subsp. 1. The yellow on neck, coxæ, base of abdomen, and hind wing replaced by pale crimson.

Hab. BRAZIL, Rio Grande do Sul (*Mabilde*), 1 ♀.

SECT. II. Antennæ of male with shorter branches; hind wing with vein 8 present as a spur or reaching costa.

A. (*Onythes*). Hind wing of male with the inner area dilated, the tornus somewhat lobed.

a. Fore wing with the costa pale *pallidicosta*.
b. Fore wing uniform blackish *carbonaria*.

1377. *Elysius pallidicosta*.

Onythes pallidicosta, Wlk. iii. 749 (1855); Kirby, Cat. Het. p. 206.

♂. Head olive-brown; palpi and antennæ dark brown; thorax olive and dark brown; coxæ orange fulvous; abdomen dark brown, lateral stripes and the ventral surface except extremity white. Fore



Fig. 80.—*Elysius pallidicosta*, ♂. 1.

wing dark brown, the costa pale with reddish brown below it; the median nervure and inner margin streaked with reddish brown. Hind wing fuscous brown.

Hab. VENEZUELA, 1 ♂ type; BOLIVIA, Chaco, Songo. *Exp.* 52 millim.

1378. *Elysius carbonaria*.

Sychesia carbonarius, Dognin, Léop. Loja, p. 51, pl. 4. f. 13 (1891); Kirby, Cat. Het. pp. 205, 906.

♂. Black-brown. Hind wing paler yellowish brown, the terminal area tinged with fuscous.

Hab. ECUADOR, Loja, type † in Coll. Dognin; BOLIVIA, Chaco; PERU, Callanga, 1 ♂: *Exp.* 54 millim.

B. (*Elysius*). Hind wing of male with the inner area normal.

a. Abdomen crimson with black bands *superba*.

b. Abdomen orange.

a¹. Abdomen without large dorsal blackish patch.

a². Abdomen with dorsal and lateral series of black patches.

a³. Fore wing with pale striæ *francki*.

b³. Fore wing without pale striæ *soleria*.

b². Abdomen with black bands.

a³. Fore wing without crimson-striated orange patches.

a⁴. Hind wing tinged with crimson *thraillkilli*.

b⁴. Hind wing not tinged with crimson *ochrota*.

b³. Fore wing with crimson-striated orange patches.

a⁴. Fore wing with medial and postmedial crimson-striated orange spots *cingulata*.

b⁴. Fore wing with large medial and postmedial crimson-striated orange patches *conspersa*.

c². Abdomen with dorsal black bars on terminal segments *hermia*.

- d*². Abdomen uniform orange.
*a*³. Fore wing orange with brown mottling and lines *sebrus*.
*b*³. Fore wing brown with darker mottling *proba*.
*b*¹. Abdomen with large dorsal blackish patch.
*a*². Abdomen with the extremity black *atrata*.
*b*². Abdomen with the extremity orange.
*a*³. Abdomen with black bands.
*a*¹. Abdomen with the black patch extending to near extremity *chimæra*.
*b*⁴. Abdomen with the black patch confined to basal segment *vauber*.
*b*³. Abdomen with lateral series of black spots.
*a*⁴. Vertex of head white *immanis*.
*b*⁴. Vertex of head dark.
*a*⁵. Abdomen with dorsal black spots on terminal segments *disciplaga*.
*b*⁵. Abdomen without dorsal spots, the patch at base small *atriceps*.
c. Abdomen fuscous brown.
*a*¹. Fore wing with pale bands *melanopлага*.
*b*¹. Fore wing uniform dark brown *bicolor*.

1379. *Elysius superba*.

Phæoptera superba, Druce, Biol. Centr.-Am., Het. i. p. 95, pl. 10. f. 2 (1884); Kirby, Cat. Het. p. 214.

Brown-pink; palpi, frons, and antennæ black; tegulæ and patagia with black points; metathorax and fore coxæ with black spots, the femora pink above, tibiæ and tarsi blackish; abdomen pink with dorsal black bands, the hair at base brown-pink, two lateral series of black spots, the ventral surface brown. Fore wing brown-pink, with black patch at base of costa; antemedial, medial, and postmedial brown bands with rather sinuous edges; a subterminal band, sending a broad fork to termen from above vein 4 and often interrupted below that point; an apical patch narrowing to the fork from subterminal band. Hind wing pale brownish semihyaline, more thickly scaled towards margins.

Hab. MEXICO, Jalapa (*Trujillo*), 2 ♀; COSTA RICA (*Underwood*), 1 ♂, 2 ♀; PANAMA, Chiriqui (*Champion*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 86 millim.

1380. *Elysius francki*. (Plate XXXVII. fig. 10.)

Mazæras francki, Schaus, J. N. Y. Ent. Soc. iv. p. 141 (1896).

♂. Head and tegulæ purplish crimson; 3rd joint of palpi, antennæ, and spots on tegulæ black; thorax purple-brown mixed with crimson; tibiæ and tarsi black; abdomen orange, clothed with crimson hair at base; large dorsal and lateral series of black spots, the ventral surface brown. Fore wing purple-brown with slight pale striæ; some crimson at base of inner area. Hind wing semihyaline, sparsely clothed with crimson scales, the inner area thickly clothed with crimson hair; cilia fuscous at apex.

Hab. BRAZIL, Castro Paraña, 1 ♂, São Paulo (*Jones*), type † ♂ in Coll. Schaus. *Exp.* 64 millim.

1381. *Elysium soteria*. (Plate XXXVIII. fig. 10.)

Mazæras soteria, Druce, A. M. N. H. (7) v. p. 509 (1900).

♂. Deep red-brown; head, tegulæ, and front of thorax dull crimson; 3rd joint of palpi, lower part of frons, antennæ, and spots on tegulæ blackish; pectus, coxæ, and femora above crimson; abdomen orange, the hair at base crimson; dorsal and lateral series of black spots, the ventral surface brown. Fore wing with the base of inner margin crimson; cilia yellow-brown at tips. Hind wing whitish, the veins and margins tinged with crimson, the inner area broadly so.

♀. Hind wing uniform pale crimson.

Hab. ARGENTINA, 1 ♂. *Exp.* 54 millim. Type † in Coll. Druce.

*1382. *Elysium thraillkilli*.

Ammalo thraillkilli, Schaus, P. Z. S. 1892, p. 280; Druce, Biol. Centr.-Am., Het. ii. p. 369, pl. 74. f. 21.

♀. Head and thorax dark brown; palpi behind and vertex of head reddish brown; tegulæ with black points; patagia with black patches; abdomen dull red with dorsal black bands, the ventral surface brown. Fore wing dark brown mottled with pale brown. Hind wing ochreous tinged with crimson.

Hab. MEXICO, Vera Cruz, 1 ♀ type † in Coll. Schaus. *Exp.* 60 millim.

1383. *Elysium ochrota*, n. sp. (Plate XXXVIII. fig. 3.)

♂. Head and thorax ochreous yellow tinged with brown; palpi brown at sides; tibiæ and tarsi brown; abdomen with dorsal black bands. Fore wing ochreous yellow, slightly tinged with brown on terminal area. Hind wing yellowish white, thinly scaled, the terminal area tinged with brown.

Hab. BOLIVIA, Chaco, 1 ♂ type. *Exp.* 60 millim.

*1384. *Elysium cingulata*. (Plate XXXVIII. fig. 13.)

Halesidota cingulata, Wlk. vii. 1710 (1856); Kirby, Cat. Het. p. 211.

Head and thorax crimson and orange; palpi black at tips; antennæ brown; patagia and metathorax with blackish spots; tibiæ and tarsi black; abdomen orange, clothed with crimson hair towards base and with black dorsal bands, the ventral surface brown. Fore wing brown obscurely mottled with red; a short crimson fascia at base of inner margin; some orange and crimson marks at base followed by an oblique band from costa to vein 1 with wavy edges; a spot in end of cell and one below vein 2; a point or patch beyond discocellulars; a rather obscure subterminal series of spots, those above veins 5 and 7 displaced inwards. Hind

wing crimson, with some semihyaline white in, below, and beyond cell.

Hab. JAMAICA; BRAZIL, Petropolis, Rio Janeiro, Coll. Schaus. *Exp.*, ♂ 76, ♀ 84 millim. Type † in Mus. Oxon.

1385. *Elysius conspersa*.

Elysius conspersus, Wlk. iii. 714 (1855); Druce, Biol. Centr.-Am., Het. i. p. 91, pl. 9. f. 25; Kirby, Cat. Het. p. 219.

♂. Head and thorax orange and scarlet; antennæ brown; tegulæ and patagia with brown points; thorax with dorsal brown stripe; pectus, coxæ, and femora scarlet; tibiæ and tarsi brown; abdomen orange, with segmental dorsal black bands, the hair on dorsum crimson. Fore wing orange thickly mottled with scarlet;



Fig. 81.—*Elysius conspersa*, ♂. †.

the veins and margins black-brown; a curved subbasal dark line from costa to vein 1; a medial brown band with wavy edges; a curved band across end of cell to the wide terminal band, which encloses some scarlet and orange spots between vein 4 and costa and expands below vein 4. Hind wing yellowish white, the marginal areas suffused with crimson.

♀. Fore wing with the brown markings less distinct; the terminal area scarlet and orange, leaving an obscure postmedial brown band conjoined to the band across discocellulars.

Hab. PANAMA, Bugaba, Chiriqui (*Champion*), 2 ♀, Godman-Salvin Coll.; COLOMBIA, Rio San Juan, 1 ♀; AMAZONS, Pará (*Bates*), 1 ♂ type. *Exp.*, ♂ 52, ♀ 66 millim.

1386. *Elysius hermia*.

Bombyx hermia, Cram. Pap. Exot. ii. pl. 185. F (1779); Kirby, Cat. Het. p. 220.

♂. Head and thorax orange and scarlet; palpi with the 3rd joint brown; antennæ brown; tegulæ with brown points, patagia edged with brown; legs striped with brown; abdomen orange, dorsally crimson towards base, the last four segments with dorsal black bars. Fore wing yellow, very thickly mottled with brown; an oblique crimson-marked yellow band at base conjoined at vein 1

to an antemedial yellow patch striated with crimson extending from costa to vein 1, and with curved brown line on its outer side; a quadrate spot in end of cell; a postmedial maculate band from costa strongly incurved below vein 4 and conjoined to the spot in cell and ending at vein 1; a subterminal series of spots, the spot above vein 6 nearer termen, the series incurved below vein 4, then bent outwards to tornus. Hind wing semihyaline, the inner area and a terminal band crimson.

Hab. SURINAM; BRAZIL, Rio Grande do Sul, 3 ♂, Petropolis. *Exp.*, ♂ 40 millim.

1387. **Elysius sebrus.** (Plate XXXVII. fig. 17.)

Phægoptera sebrus, Druce, A. M. N. H. (7) iii. p. 233 (1899).

♂. Orange-yellow; palpi with the 3rd joint black, the 2nd joint, vertex of head, tegulæ, patagia, and fore coxæ with black points. Fore wing mottled with pale red-brown and with yellower patches mottled with orange and edged with brown; the veins brown; a basal patch edged by the curved subbasal line; a patch before the antemedial curved line traversed by an incurved line from cell to vein 1 and with orange streak edged with brown above on inner margin; a large medial spot in cell; a band on inner side of the slightly curved oblique postmedial line expanding below the cell and edged by a waved line on inner side; an irregularly waved subterminal series of spots.

Hab. BRAZIL, Casa Branca; BOLIVIA, type † in Coll. Druce; PERU, Chanchamayo, 1 ♂. *Exp.* 56 millim.

1388. **Elysius proba.**

Phægoptera proba, Schaus, P. Z. S. 1892, p. 281; Druce, Biol. Centr.-Am., Het. ii. p. 375, pl. 74. f. 20.

Head and thorax brown; palpi at base, neck, and coxæ orange; abdomen orange. Fore wing brown, mottled with grey-brown forming traces of numerous bands and with darker points on the veins; the inner margin and termen grey-brown. Hind wing orange-yellow, with more or less grey-brown suffusion at apex.

Hab. MEXICO, Oaxaca, 1 ♂, Guadalajara, Vera Cruz; HONDURAS. *Exp.* 78 millim. Type † in Coll. Schaus.

1389. **Elysius atrata.**

Lophocampa atrata, Feld. Reis. Nov. pl. 101. f. 8 (1874); Kirby, Cat. Het. p. 213.

Head and tegulæ orange; palpi black, orange at base and with orange point at extremity of 2nd joint on inner side; antennæ black; tegulæ and shoulders with black spots; thorax black; pectus orange, with lateral black patches; legs black; abdomen orange, with large dorsal black patch on medial segments, the

extremity and ventral surface black; wings black; hind wing with hyaline patch in, below, and beyond lower end of cell.

Hab. COLOMBIA, Bogotá; ECUADOR, Loja, 1 ♂; BOLIVIA, Corvico; PERU, Chaco, Chanchamayo. *Exp.* 66–68 millim.

1390. *Elysius chimæra*. (Plate XXXVIII. fig. 1.)

Phæoptera chimæra, Druce, P. Z. S. 1893, p. 288.

♂. Black; back of head and patagia with orange spots; sides of pectus and coxæ behind orange; abdomen with orange lateral patches from 3rd segment, almost meeting dorsally on terminal segment, sublateral patches on 2nd, 3rd, and 4th segments, followed by small spots on the two following; anal tuft orange. Fore wing with slight orange mark on base of inner area. Hind wing with the basal two-thirds from middle of cell to inner margin white with the veins dark, the inner edge of the terminal band irregular.

Hab. BRAZIL, Casa Branca, Sta. Catherina; PARAGUAY, 1 ♂. *Exp.* 60 millim. Type † in Coll. Druce.

1391. *Elysius umber*.

Bombyx umber, Cram. Pap. Exot. i. pl. 15. F (1775); Druce, Biol. Centr.-Am., Het. i. p. 100; Kirby, Cat. Het. p. 206.

Black-brown; back of head and patagia with fulvous-orange spots; abdomen dorsally orange, with segmental lines and the hair towards base brown. Hind wing rather paler brown.

Hab. PANAMA, Chiriqui (*Champion*), 1 ♂, 1 ♀, Godman-Salvin Coll.; SURINAM. *Exp.*, ♂ 70, ♀ 86 millim.

1392. *Elysius immanis*.

Euchætes immanis, H. Edw. Papilio, iv. p. 75 (1884); Kirby, Cat. Het. p. 237.

Opharus jacca, Druce, Biol. Centr.-Am., Het. ii. p. 382, pl. 76. f. 6 (1897).

Dull brown; upper part of frons and vertex of head yellowish white; throat orange-yellow; abdomen orange-yellow, the dorsal area brown, reduced to spots towards extremity, the ventral surface grey-brown except at base and extremity. Fore wing with very obscure discoidal lunule and subterminal waved diffused line incurved between veins 6 and 4. Hind wing with the disk rather thinly scaled.

Hab. MEXICO, Jalapa, Coatepec (*Schaus*), 1 ♂; PANAMA, Chiriqui, type † *jacca* in Coll. Staudinger. *Exp.* 54 millim.

1393. *Elysius disciplaga*. (Plate XXXVIII. fig. 15.)

Halesidota disciplaga, Wlk. vii. 1709 (1856); Kirby, Cat. Het. p. 211.

Halesidota breviscula, Wlk. xxi. 311 (1864); Druce, Biol. Centr.-Am., Het. p. 94; Kirby, Cat. Het. p. 206.

Euhalesidota aperta, H. Edw. Papilio, iv. p. 77 (1884).

♂. Brown; pectus and coxæ with orange patches; abdomen orange above, with large brown dorsal patch on 2nd-5th segments followed by dorsal spots, the terminal segment and ventral surface brown. Fore wing very thickly irrorated with pale scales; a pale point on angle of discocellulars. Hind wing pale, the terminal area tinged with brown, the inner with orange.

♀. The extremity of abdomen orange; the hind wing browner.

Hab. MEXICO, type, Jalapa (*Hoege*), Coatepec (*Brooks*); GUATEMALA; PANAMA (*Champion*), Godman-Salvin Coll.; COLOMBIA; BOLIVIA, Suapi. *Exp.* 48-52 millim.

1394. *Elysius atriceps*, n. sp. (Plate XXXVIII. fig. 2.)

♂. Head and thorax yellowish white; palpi with the 2nd joint black at sides, the 3rd joint black; antennæ rufous; vertex of head with black patch with some orange behind it; tegulæ with black spots, shoulders and patagia striped with black; mesothorax with black spot; legs brown and white, the fore coxæ orange; abdomen orange, with dorsal fuscous patch at base, lateral series of black spots, and the ventral surface whitish. Fore wing ochreous irrorated with brown; the series of white spots with diffused dark brown edges; orange and black points at base; an antemedial very oblique series of three white spots; a medial series angled on median nervure, then very oblique, the two spots towards costa small; a spot in end of cell, two small discoidal spots with one on costa above them; an oblique postmedial series of spots angled outwards above vein 4, the three spots towards costa larger; a subterminal series of spots, those above veins 3 and 4 smaller, two near tornus forming a <-mark. Hind wing yellowish white, the apex slightly tinged with fuscous.

Hab. COLOMBIA, 1 ♂ type; BOLIVIA, R. Tanampaya. *Exp.* 54 millim.

1395. *Elysius melanoplaga*, n. sp. (Plate XXXVIII. fig. 16.)

♂. Head, thorax, and abdomen pale and dark brown; patagia with whitish stripes; abdomen with some whitish hair at base. Fore wing pale, suffused and striated with brown; the costal area black-brown, expanding into large basal and postmedial patches; the bands pale and defined by fine brown lines; a subbasal curved band bent round and running to the base as a whitish stripe; an antemedial pale point below costa and band from cell to inner margin; a rather irregular medial band from costa to just above inner margin; a postmedial band excurved to vein 4, then incurved and interrupted beyond lower angle of cell by the dark patch; an irregularly waved and dentate subterminal band, with dark patches beyond it above and below middle. Hind wing whitish, the veins, a discoidal patch, and a terminal band narrowing to tornus brown; veins 4, 5 from cell, 8 a spur.

Hab. ECUADOR (*Buckley*), 1 ♂ type. *Exp.* 52 millim.

1396. *Elysium bicolor*.

Hebena bicolor, Mssn. Stübel's Reisen S. Amer., Lep. pp. 49, 52, 132, pl. 5. f. 1 (1890); Kirby, Cat. Het. p. 907.

♂. Head and thorax dark brown; antennæ and fore coxæ pale brown; abdomen dark brown, the hair on base of dorsum fulvous yellow. Fore wing dark brown, rather thinly scaled. Hind wing semihyaline white; the inner area tinged with yellow; the costa and cilia towards apex brown.

Hab. ECUADOR; PERU, Callao (*J. J. Walker*), 1 ♂. *Exp.* 60 millim.

Genus **ISCHNOCAMPA**.

Ischnocampa, Feld. Reis. Nov. p. 6 (1874), non descr. Type. *sordida*.

Proboscis fully developed; palpi slender, upturned, the 3rd joint well developed and porrect; antennæ pectinate, the apical part serrate; tibiæ with the spurs moderate; abdomen with slight lateral tufts of rough hair at base. Fore wing with veins 3, 4, 5 from angle of cell, or 3 from just before angle; 6 from or from just below angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with veins 3, 4, 5 from angle of cell; 6, 7 from upper angle; 8 absent or from beyond middle of cell.

- A. Fore wing white, the veins streaked with black *nigridorsata*.
- B. Fore wing yellow, the veins streaked with black *nigrivena*.
- C. Fore wing ochreous brown irrorated with black.
 - a. Abdomen with ochreous-yellow lateral fascia *celer*.
 - b. Abdomen without yellow lateral fascia.
 - a¹. Fore wing with black point in middle of cell *mamona*.
 - b¹. Fore wing without black point in middle of cell.
 - a². Vertex of head and neck brown *nubilosa*.
 - b². Vertex of head whitish, neck orange..... *sordida*.
- D. Fore wing fuscous brown.
 - a. Tegulæ without white spots.
 - a¹. Abdomen with lateral stripes and the extremity greyish *lugubris*.
 - b¹. Abdomen with two lateral series of white spots *tristis*.
 - b. Tegulæ with white spots..... *mundator*.

*1397. *Ischnocampa nigridorsata*. (Plate XXXVIII. fig. 8.)

Ischnocampa nigridorsata, Schaus, A. M. N. H. (7) vii. p. 268 (1901).

♂. Head, thorax, and abdomen bright yellow; palpi, antennæ, and greater part of legs fuscous; abdomen with the 2nd, 3rd, and 4th segments dorsally black-brown, the ventral surface fuscous; wings dull white, the veins and margins blackish; hind wing with the inner area suffused with fuscous.

Hab. PERU, type ♂ in Coll. Schaus. *Exp.* 48 millim.

1398. *Ischnocampa nigrivena*. (Plate XXXVIII. fig. 11.)

Ischnocampa nigrivena, Schaus, A. M. N. H. (7) vii. p. 268 (1901).

Head, thorax, and abdomen orange; palpi and antennæ black;

legs mostly black; abdomen with the ventral surface fuscous to near extremity. Fore wing golden yellow, suffused with flesh-white on costa to apex, in cell to discocellulars, below the cell to middle, and on inner margin to near tornus; the veins, cell, submedian fold, and inner margin black. Hind wing golden yellow, the veins brownish.

Hab. BOLIVIA, Suapi, 1 ♀, type † ♂ in Coll. Schaus. *Exp.* 62 millim.

***1399. *Ischnocampa celer*. (Plate XXXVIII. fig. 17.)**

Carales celer, Schaus, P. Z. S. 1892, p. 282.

Pale brown irrorated with black; palpi blackish at sides; abdomen fuscous black, with ochreous-yellow lateral stripe formed of conjoined triangular spots; the ventral surface ochreous whitish, with ventral fuscous stripe. Fore wing with slight fuscous markings at base; antemedial obliquely-placed black points on costa, median nervure, and inner margin; a discoidal point; a postmedial series of indistinct striæ on the veins, excurved from below costa to vein 4, then incurved; a slight sinuous subterminal shade; a terminal series of points. Hind wing suffused with fuscous.

Hab. BRAZIL, Petropolis, Novo Friburgo, type † in Coll. Schaus. *Exp.* 40 millim.

***1400. *Ischnocampa mamona*.**

Theages mamona, Dognin, Le Nat. 1892, p. 144; id. Lép. Loja, pl. 8. ff. 11, 12.

♂. Pale yellow-brown; abdomen somewhat darker, the anal tuft orange-yellow. Fore wing slightly irrorated with darker brown; a blackish point in middle of cell; an oblique dark shade from apex to vein 5 formed by short streaks in interspaces; traces of short subterminal dark streaks in interspaces. Hind wing pale, the veins and terminal area browner.

Hab. ECUADOR, Loja. *Exp.* 44 millim. Type † in Coll. Dognin.

***1401. *Ischnocampa nubilosa*.**

Theages nubilosa, Dognin, Le Nat. 1892, p. 144; id. Lép. Loja, pl. 8. f. 10.

♂. Brown irrorated with black; abdomen suffused with black. Fore wing with the veins streaked with blackish; the interspaces somewhat suffused with black; the medial part of vein 1 outlined with whitish scales; two black points on discocellulars; a very ill-defined blackish shade from apex to lower angle of cell. Hind wing pale semihyaline; a blackish discoidal point; the costal area and termen irregularly brown irrorated with black.

Hab. ECUADOR, Loja. *Exp.* 46 millim. Type † in Coll. Dognin.

1402. *Ischnocampa sordida*.

Ischnocampa sordida, Feld. Reis. Nov. pl. 106. f. 22 (1874); Kirby, Cat. Het. p. 342.

♂. Palpi pale, irrorated with dark brown; frons blackish; vertex of head white, irrorated with black and with black stripe; antennæ pale and dark brown; neck orange; tegulæ and thorax white irrorated with black, the latter with black dorsal stripe; patagia brown irrorated with dark brown; abdomen black irrorated with ochreous, especially on ventral surface. Fore wing ochreous,



Fig. 82.—*Ischnocampa sordida*, ♂. 1.

strongly irrorated and suffused with black; a black spot in end of cell; indistinct diffused postmedial and subterminal dark lines, the former angled at lower end of cell. Hind wing semihyaline, the veins dark; the costal and terminal areas irregularly suffused with ochreous brown strongly irrorated with black.

♀. Thorax and fore wing browner.

Hab. COLOMBIA, Bogotá, type ♀ in Coll. Rothschild; BOLIVIA, Chaco (*Garlepp*), 1 ♂, R. Songo. *Exp.* 40 millim.

1403. *Ischnocampa lugubris*. (Plate XXXVIII. fig. 4.)

Opharus lugubris, Schaus, P. Z. S. 1892, p. 282.

Fuscous brown to pale brown mixed with grey; abdomen with lateral stripes, the extremity and ventral surface greyish. Fore wing with the disk thinly scaled, and thickly striated with fuscous. Hind wing whitish, the veins and marginal areas fuscous brown.

Hab. BRAZIL, Espiritu Santo, 1 ♂, 1 ♀, Sta. Catherina, Novo Friburgo, Petropolis, Rio Janeiro. *Exp.*, ♂ 36–40, ♀ 50–60 millim. Type ♀ in Coll. Schaus.

1404. *Ischnocampa tristis*.

Opharus tristis, Schaus, Ent. Am. v. p. 191 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 382, pl. 76. f. 3; Kirby, Cat. Het. p. 205.
Opharus dolens, Druce, A.M.N.H. (6) xiii. p. 174 (1894).

Fuscous; coxæ and femora with white streaks; abdomen with two lateral and a sublateral series of white spots. Hind wing with the area in and below the cell semihyaline.

Hab. MEXICO, Jalapa (*Trujillo*), 1 ♀, Orizaba; COSTA RICA (*Underwood*), 1 ♂, 1 ♀, Godman-Salvin Coll.; BRAZIL, Rio Janeiro, 1 ♂. *Exp.*, ♂ 48, ♀ 54 millim.

1405. *Ischnocampa mundator*.

Opharus mundator, Druce, Biol. Centr.-Am., Het. i. p. 102, pl. 10. f. 10 (1884); Kirby, Cat. Het. p. 205.

♀. Black-brown; tegulæ with white spots; patagia with white points at extremity; coxæ with white spots and streaks; abdomen with lateral and sublateral series of white spots. Hind wing with the area in and below cell semihyaline white.

Hab. COSTA RICA, Irazu (*Rogers*), 1 ♀ type, Godman-Salvin Coll. *Exp.* 66 millim.

Genus OPHARUS.

	Type.
<i>Phegoptera</i> , Herr.-Schäff. Aussereur. Schmett. p. 16 (1850), non descr.	no type.
<i>Opharus</i> , Wlk. iii. 728 (1855)	<i>procroides</i> .
<i>Carales</i> , Wlk. iii. 729 (1855)	<i>astur</i> .
<i>Pitheca</i> , Wlk. vii. 1701 (1856)	<i>ferruginea</i> .
<i>Senia</i> , Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 666 (1877).	<i>astur</i> .

Proboscis fully developed; palpi upturned, the 2nd joint nearly reaching vertex of head, the 3rd long and porrect; frons roughly scaled; antennæ long, bipectinate, the branches dilated at extremity; tibiæ with the spurs short; abdomen dorsally clothed with rough hair. Fore wing elongate; veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, stalked; 10, 11 free. Hind wing with vein 3 from close to angle of cell; 4, 5 shortly stalked or from angle; 6, 7 from upper angle; 8 from towards angle of cell.

SECT. I. (*Pitheca*). Antennæ of male with the branches long.

*1406. *Opharus ferrugineus*. (Plate XLIV. fig. 16.)

Pitheca ferruginea, Wlk. vii. 1701 (1856); Kirby, Cat. Het. p. 913.

♂. Head and thorax dark brown; sides of thorax and pectus with some fulvous hair; abdomen orange, with dorsal black bands on last five segments, the ventral surface black. Fore wing fuscous brown; broad olive-brown fasciæ on costa extending to near apex and on inner margin to middle; a slight streak on median nervure. Hind wing semihyaline whitish, some orange hair at base; the terminal area tinged with fuscous.

♀. Head, thorax, and fore wing more chestnut-brown; hind wing fuscous.

Hab. COLOMBIA, Bogotá, type † in Mus. Oxon. *Exp.* 44 millim.

SECT. II. (*Opharus*). Antennæ of male with the branches moderate or short.

- A. Vertex of head scarlet..... *ruficollis*.
 B. Vertex of head bright yellow..... *belus*.
 C. Vertex of head with yellowish-white patch.
 a. Abdomen crimson with black bands *rhodosoma*.
 b. Abdomen yellow, fuscous above.. *basalis*.
 D. Vertex of head ochreous or brown.
 a. Fore wing without transverse markings.
 *a*¹. Fore wing uniform fuscous brown.
 *a*². Tegulæ and thorax grey tinged with pink *linus*.
 *b*². Tegulæ and thorax dark.
 *a*³. Patagia with white patches *bimaculata*.
 *b*³. Patagia without white patches.
 *a*⁴. Abdomen with lateral orange patches.
 *a*⁵. Pectus orange *consimilis*.
 *b*⁵. Pectus dark *procroides*.
 *b*⁴. Abdomen with lateral orange stripes and dorsal bands on terminal segments..... *almopia*.
 *b*¹. Fore wing pale yellow-brown.
 *a*². Antennæ black; wings with the veins dark.
 *a*³. Palpi banded with black *elota*.
 *b*³. Palpi not banded with black *laudia*.
 *b*². Antennæ and veins concolorous..... *trama*.
 *c*¹. Fore wing pale green, with the veins darker *thalassina*.
 b. Fore wing with transverse markings.
 *a*¹. Fore wing with the ground-colour dark brown.
 *a*². Abdomen crimson with dark bands.
 *a*³. Fore wing with crimson points at angles of cell. *flavimaculata*.
 *b*³. Fore wing without crimson points at angles of cell *piperita*.
 *b*². Abdomen black-brown and orange.
 *a*³. Fore wing with series of orange spots without dark edges *aurogutta*.
 *b*³. Fore wing with interrupted yellowish lines... *decrepida*.
 *c*³. Fore wing with series of dark-edged yellowish to orange spots.
 *a*⁴. Fore wing with medial series of orange spots *granifera*.
 *b*⁴. Fore wing without medial series of orange spots.
 *a*⁵. Fore wing with whitish bands.
 *a*⁶. Tegulæ with white spots..... *histrionica*.
 *b*⁶. Tegulæ without white spots *schaefferi*.
 *b*⁵. Fore wing without whitish bands..... *chorima*.
 *b*¹. Fore wing pale purplish brown, with series of yellowish spots on dark bands.
 *a*². Abdomen orange, with triangular black patch at base of dorsum *flavopunctata*.
 *b*². Abdomen black, with subdorsal series of orange spots *flavostrigata*.
 *c*². Abdomen black, with dorsal and subdorsal series of black spots *picturata*.
 *c*¹. Fore wing with the ground-colour whitish.
 *a*². Fore wing with series of orange-brown spots.
 *a*³. Abdomen crimson and black-brown *depicta*.
 *b*³. Abdomen orange and black-brown *nexa*.
 *b*². Fore wing without series of orange spots.
 *a*³. Fore wing with maculate white bands *astur*.
 *b*³. Fore wing with obscure subterminal white band only..... *polystrigata*.

***1407. *Opharus ruficollis*.**

Opharus ruficollis, Druce, Biol. Centr.-Am., Het. i. p. 102, pl. 10. f. 8 (1884)
Kirby, Cat. Het. p. 205.

♂. Palpi, frons, and antennæ black-brown; vertex of head, tegulæ, and patagia scarlet, the last two with black points; thorax brown; base of palpi, pectus, and base of legs fulvous; abdomen pale fulvous red, with black dorsal spots on last four segments, a lateral series of spots, and ventral series of patches becoming bands on last four segments. Fore wing brown with a purplish tinge; the base of inner area reddish, with one basal and two subbasal black points; a fuscous subterminal band from below costa to vein 5, where it is bent inwards, then continued to tornus. Hind wing pale fulvous to middle of costa and tornus, the apical half brown.

Hab. PANAMA, Chiriqui, type † in Coll. Staudinger. *Exp.* 54 millim.

***1408. *Opharus belus*.**

Opharus belus, Druce, Biol. Centr.-Am., Het. ii. p. 382, pl. 76. f. 5 (1897).

♂. Fuscous brown; vertex of head and base of patagia bright yellow; abdomen with the last four segments orange-yellow above with dorsal and lateral black spots, the 3rd and 4th segments also having black lateral spots on orange patches. Fore wing with the terminal half finely striated with dark brown; antemedial, medial, postmedial, and subterminal minutely waved paired lines, the medial lines slightly angled on median nervure, the postmedial incurved below vein 4, the subterminal irregularly dentate; a darker patch in and beyond end of cell.

Hab. PANAMA, Chiriqui, type † ♂ in Coll. Staudinger. *Exp.* 48 millim.

1409. *Opharus rhodosoma*.

Phaegoptera rhodosoma, Butl. A. M. N. H. (4) xvi. p. 233 (1875); id. Ill. Het. B. M. i. p. 52, pl. 18. f. 3 (1877); Kirby, Cat. Het. p. 205.

♀. Head black, the vertex yellowish white; thorax black-brown, with yellowish-white patch on tegulæ and prothorax; coxæ crimson; abdomen black-brown, the basal segments crimson, then with subdorsal crimson patches almost meeting above. Fore wing red-brown, with very numerous pale transverse striated lines forking and with brown points on them. Hind wing dark brown, with paler patch in cell and crimson patch from cell to tornus.

Hab. ECUADOR (*Buckley*), 1 ♀ type. *Exp.* 72 millim.

1410. *Opharus basalis*. (Plate XXXVIII. fig. 18.)

Opharus basalis, Wlk. vii. 1704 (1856); Kirby, Cat. Het. p. 205.

Head and shoulders black; vertex of head, tegulæ, patagia, and thorax yellowish white; pectus orange; legs brown; abdomen fuscous, with broad orange lateral fasciæ meeting dorsally at

extremity. Fore wing pale brown; the median nervure and veins 1, 2, 3, 4 streaked with black; a yellowish-white patch at base of inner margin. Hind wing fuscous brown.

Hab. VENEZUELA, Porto Cabello; BRAZIL, Rio Janeiro, 1 ♂, 1 ♀; BOLIVIA, R. Songo. *Exp.*, ♂ 46, ♀ 56 millim. Type† in Mus. Oxon.

1411. *Opharus linus*.

Opharus linus, Druce, Biol. Centr.-Am., Het. ii. p. 382, pl. 76. f. 4 (1897).

♀. Fuscous brown; vertex of head, tegulæ, upper edge of patagia, and the thorax pale ochreous; neck, base of tegulæ, and thorax tinged with pink; tarsi with pale rings; abdomen with lateral fasciæ and the extremity pinkish. Hind wing somewhat thinly scaled.

Hab. MEXICO, Jalapa, type† ♀ in Coll. Schaus. *Exp.* 50 millim.

1412. *Opharus bimaculata*.

Halisidota bimaculata, Dewitz, Mitth. Münch. ent. Ver. i. p. 95 (1877); Kirby, Cat. Het. p. 202.

Opharus albipunctatus, Druce, Biol. Centr.-Am., Het. i. p. 102, pl. 10. f. 11 (1884); Kirby, Cat. Het. p. 205.

Head, thorax, and abdomen black-brown; vertex of head and shoulders with metallic blue points; patagia with white patches; pectus clothed with orange hair; fore coxæ with orange spots; abdomen with lateral series of orange patches almost meeting dorsally except on basal segments. Fore wing fuscous brown. Hind wing semihyaline white, the veins and an irregularly diffused terminal band brown.

Hab. GUATEMALA, Vera Paz (*Champion*), 1 ♂ type *albipunctatus*; COSTA RICA (*Underwood*), 1 ♀; HONDURAS (*Bluncaneaux*), 2 ♀, Godman-Salvin Coll.; BRAZIL, Rio Grande do Sul. *Exp.*, ♂ 46, ♀ 50 millim.

1413. *Opharus consimilis*. (Plate XXXVIII. fig. 7.)

Opharus procroides, Druce, Biol. Centr.-Am., Het. i. p. 101 (nec Wlk.).

Dark brown; vertex of head, shoulders, and end of patagia with metallic blue points; pectus clothed with orange hair; fore coxæ with orange spots; abdomen with lateral orange patches nearly meeting dorsally except on basal segments. Fore wing with the veins rather darker. Hind wing somewhat semihyaline towards base, especially in male.

Hab. MEXICO, Jalapa, type ♂, Misantla (*Trujillo*), 1 ♂, 1 ♀; GUATEMALA, Las Mercedes (*Champion*), 1 ♂, 1 ♀, Godman-Salvin Coll.; COLOMBIA. *Exp.*, ♂ 48, ♀ 56 millim.

1414. *Opharus procroides*.

Opharus procroides, Wlk. iii. 729 (1855); Kirby, Cat. Het. p. 205.

Dark brown; abdomen with lateral series of orange-yellow

patches almost meeting dorsally towards extremity. Fore wing with the veins rather darker. Hind wing with the cell and interspaces below and just beyond it whitish.



Fig. 83.—*Opharus procroides*, ♂. †.

Hab. PANAMA, Chiriqui; BRAZIL, Sta. Catherina, Rio Janeiro; BOLIVIA, Chaco; PERU, Chanchamayo, 2 ♂, 2 ♀, type. *Exp.*, ♂ 50, ♀ 54 millim.

*1415. *Opharus almopia*. (Plate XXXVIII. fig. 21.)

Phægoptera almopia, Druce, P. Z. S. 1890, p. 497; Kirby, Cat. Het. p. 207.

♀. Fuscous brown; abdomen with orange-yellow lateral stripes, and dorsal bands on last four segments. Fore wing with slightly darker discoidal lunule. Hind wing slightly paler; the interspaces on basal half semihyaline; veins 4, 5 stalked.

Hab. COLOMBIA, Antioquia, Frontino (*Salmon*), type † ♀ in Coll. Druce. *Exp.* 62 millim.

*1416. *Opharus elota*.

Halesidota elota, Möschl. Abh. Senck. Ges. xiv. p. 33, f. 29 (1886); Kirby, Cat. Het. p. 209.

♀. Orange-brown; palpi orange banded with black; frons and antennæ except at base black; upper edge of patagia and a dorsal streak on thorax greenish; legs and abdomen at sides with black spots; the upperside of abdomen orange. Fore wing with the inner margin except towards base and cilia black; a fulvous discoidal spot; the veins rather darker. Hind wing orange, semihyaline except towards margins.

Hab. JAMAICA, type † ♀ in Coll. Staudinger. *Exp.* 74 millim.

1417. *Opharus laudia*. (Plate XXXVIII. fig. 20.)

Phægoptera laudia, Druce, P. Z. S. 1890, p. 497; Kirby, Cat. Het. p. 213.

♂. Orange-yellow; antennæ black; wings very thinly scaled and semihyaline, tinged with brown, the veins darker. Fore wing with a slight clouded mark in and below cell at origin of vein 2; the terminal area slightly more thickly scaled.

Hab. TRINIDAD, type † ♂ in Coll. Druce; VENEZUELA, 1 ♂. *Exp.* 58 millim.

*1418. *Opharus trama*. (Plate XXXVIII. fig. 6.)

Pseudopistosia trama, Dognin, Ann. Soc. Ent. Belge, xxxviii. p. 682 (1894).

Opharus euripides, Druce, A. M. N. H. (7) v. p. 509 (1900).

♀. Head and thorax pale red-brown; abdomen yellowish brown. Fore wing pale red-brown and very thinly scaled. Hind wing almost hyaline, tinged with yellowish brown, especially on veins and margin.

Hab. COLOMBIA, Bogotá, Sierra del Libano (*H. H. Smith*), type † ♀ *euripides* in Coll. Druce; ECUADOR, Loja, type † in Coll. Dognin; BOLIVIA, Chaco. *Exp.* 52 millim.

1419. *Opharus thalassina*.

Phegoptera thalassina, Herr-Schäff. Aussereur. Schmett. f. 66 (1853); Kirby, Cat. Het. p. 213.

Head and thorax white; palpi, vertex of head, antennæ, tips of tegulæ, and a stripe on patagia orange-yellow; legs yellow and white; abdomen orange-yellow, the ventral surface white. Fore wing semihyaline greenish white, deepening near the veins which are deep green; some white at base with black points on its outer edge; inner margin and termen whiter. Hind wing paler, the veins pale green; the inner area sparsely clothed with pale yellow hair.

Hab. VENEZUELA, type † in Coll. Staudinger; COLOMBIA, 1 ♂, 1 ♀; BRAZIL, Rio Janeiro. *Exp.*, ♂ 74, ♀ 88 millim.

1420. *Opharus flavimaculata*, n. sp. (Plate XXXIX. fig. 7.)

♂. Black-brown; basal joint of antennæ crimson in front; tegulæ and patagia with yellow spots; neck with some crimson at sides; coxæ at sides and femora above crimson; the spurs, the extremity of hind tibiæ, and inner side of tarsi crimson; abdomen with dorsal and subdorsal crimson tufts of hair on 1st segment and dorsal bands on the others, sublateral yellow fasciæ except at extremity. Fore wing with yellow points at base of cell and below median nervure; antemedial elongate spots below costa, costal nervure, and in cell, and two shorter spots in submedian interspace; a spot below base of vein 2, with a small spot below it; a spot in upper end of cell, with spot above it below costa; crimson points at angles of cell; spots beyond the cell above veins 6 and 7 and below costa; an oblique series of four small paler spots from below vein 4 to above 1; a subterminal series of small spots, the spots above veins 7 and 5 further from termen. Hind wing with subbasal yellow patch on costa and spot in upper end of cell.

Hab. BRAZIL, Tapajos, Sta. Catherina; PERU (*Simons*), 1 ♂, Chanchamayo (*Thamm*), 1 ♂ type. *Exp.* 62 millim.

1421. *Opharus piperita*.

Phegoptera piperita, Herr.-Schäff. Aussereur. Schmett. f. 293 (1855);
Druce, Biol. Centr.-Am., Het. i. p. 93; Kirby, Cat. Het. p. 212.

♀. Black-brown; head and thorax irrorated with white scales; palpi with crimson spot at side of 2nd joint; frons, vertex of head, tegulae, patagia, meso- and metathorax with pairs of pale yellow spots; fore femora crimson above; tibiae irrorated with yellow; abdomen crimson with brown bands, the hair on dorsum towards base brown, the ventral surface yellow with brown bands. Fore wing irrorated with small white spots; some yellow points at base; a subbasal spot in cell and small spot below it; an antemedial series angled in cell, then oblique, the two spots below the cell larger; two medial series interrupted in cell, the outer with the spot above vein 2 displaced outwards; two discoidal spots; a postmedial series slightly angled above veins 6 and 4, then incurved; a subterminal series with the spots on costa and above vein 6 displaced outwards. Hind wing pale yellow; conjoined brown patches on costa at middle of cell and a terminal band broad at costa, narrowing to tornus, irrorated with white points; the inner area tinged with brown.

Hab. COSTA RICA (*Rogers*), 1 ♀ Godman-Salvin Coll.; PANAMA, Chiriqui; BRAZIL. *Exp.* 66 millim.

*1422. *Opharus aurogutta*. (Plate XXXVIII. fig. 9.)

Phegoptera aurogutta, Schaus, J. N. Y. Ent. Soc. iv. p. 141 (1896).

♂. Black-brown; antennae reddish brown; metathorax and pectus with paired crimson patches; mid femora crimson above; abdomen with orange bands on four terminal segments. Fore wing with orange spots at base; an antemedial series of five small spots, angled in cell, with two spots beyond them in submedian interspace; a medial point on costa; a spot in end of cell, followed by a series of five small spots from costa to below vein 2; postmedial and subterminal series of spots, the spots above vein 5 displaced inwards, the postmedial series incurved below vein 4; a cilia series of spots. Hind wing yellowish suffused with fuscous; a discoidal blackish spot and a patch at apex; some obscure terminal black spots; cilia yellower; underside with an inverted Y-shaped black mark on middle of costa.

Hab. COLOMBIA, type† ♂ in Coll. Schaus. *Exp.* 48 millim.

1423. *Opharus decrepida*.

Phegoptera decrepida, Herr.-Schäff. Aussereur. Schmett. f. 287 (1855);
Kirby, Cat. Het. p. 207.

♂. Head and thorax brown irrorated with ochreous, palpi at sides, frons, and vertex of head with blackish marks, tegulae and patagia with black-edged annulate markings; abdomen orange, the long hair at base black-brown, dorsal and lateral series of black spots ending in a patch on terminal segment, the ventral surface

ochreous. Fore wing ochreous brown, strongly irrorated and striated with black-brown; the median nervure and vein 1 with blackish streaks; some ochreous and blackish markings at base; an irregular antemedial ochreous line strongly angled on median nervure and oblique towards costa and below the cell; an ochreous cross in end of cell and discoidal lunule; a short streak on middle of vein 1 with some points above it; a slight postmedial spot on costa with bracket-shaped mark below it, then a series of points strongly incurved below vein 3; a diffused blackish mark beyond the cell; a subterminal line formed by very irregular spots on blackish marks excurved just below costa and angled inwards on vein 1; a terminal series of small spots intersected by short black streaks. Hind wing black-brown.

Hab. VENEZUELA, type ♂ in Coll. Staudinger; ECUADOR, 1 ♂; BOLIVIA, R. Suapi, 1 ♂, R. Songo, Chaco; PERU, Chanchamayo. *Exp.* 48 millim.

1424. *Opharus granifera*.

Phagoptera granifera, Schaus, P. Z. S. 1892, p. 281; id. Am. Lep. pl. 3. f. 4.

♀. Head and thorax fuscous; orange spots on sides of palpi and frons, back of head, and patagia; vertex of head and tegulæ with white patches, the latter edged with orange, white spots at end of patagia, metathorax and coxæ with orange hair; abdomen black-brown, a lateral series of orange spots, the terminal segments orange above with black lines, the ventral surface whitish except at extremity. Fore wing brown, with subbasal, antemedial, medial, postmedial, and subterminal black-edged maculate orange-brown bands, the antemedial angled outwards on median nervure and inwards in submedian fold, the medial curved, the postmedial sinuous with three spots on its inner side beyond the cell, the subterminal angled inwards above vein 5; points below costa and above vein 1 beyond the antemedial band; an angled white band beyond the subbasal band from costa to submedian fold; a series of white points beyond the medial band; a subapical patch before the subterminal band and two points beyond its middle; a terminal series of orange points. Hind wing fuscous brown.

Hab. BRAZIL, Rio Janeiro, 1 ♀, Petropolis, type ♀ in Coll. Schaus, Espiritu Santo. *Exp.* 58 millim.

1425. *Opharus histrionica*.

Phagoptera histrionica, Herr.-Schäff. Aussereur. Schmett. f. 68 (1853); Kirby, Cat. Het. p. 212.

♀. Black-brown; 1st and 2nd joints of palpi, sides of frons, vertex of head, ends of tegulæ, patagia, meso- and metathorax, and coxæ with orange-fulvous spots; tegulæ with white spots; patagia striped with white; abdomen with the black-brown rounded off on 4th segment, the terminal part of dorsal surface orange, lateral

series of orange points and whitish spots, a sublateral series of whitish patches. Fore wing with subbasal orange points below costa and cell; an antemedial series of small orange spots acutely angled on median nervure and strongly incurved in submedian interspace, with a whitish spot before it below costa, a streak in cell, and oblique bar and streak in submedian interspace, its outer edge defined by an oblique white band from costa to median nervure and angled band from below cell to inner margin; an orange point in end of cell; an oblique whitish band from costa beyond middle to lower angle of cell, then angled inwards to join the antemedial band, then excurved to the inner side of the postmedial series of orange points, which is excurved from costa to vein 3, then sinuous; a subterminal whitish band giving off a fork to apex, bent outwards round an orange point between veins 3, 4, and angled inwards in submedian fold; a whitish fascia on inner margin except towards base; an orange mark on costa towards apex, two points between veins 6, 7, and a terminal series of small spots on the veins; cilia white towards tornus. Hind wing with whitish spots below base and end of cell and beyond the cell between veins 3 and 6; some obscure subterminal spots between veins 2 and 6. Underside with some orange marks at base of fore wing and on base of costa of hind wing.

Hab. BRAZIL, 1 ♀. *Exp.* 78 millim. Type † in Coll. Staudinger.

*1426. *Opharus schaefferi*. (Plate XXXVIII. fig. 13.)

Phægoptera schaefferi, Schaus, P. Z. S. 1892, p. 280.

Phægoptera nexoides, Schaus, J. N. Y. Ent. Soc. iv. p. 140 (1896).

♂. Head and thorax brown; palpi, upper part of frons, sides of vertex of head, tegulæ, patagia, meso- and metathorax with orange spots; coxæ and extremity of spurs orange; abdomen orange, with triangular dorsal brown patch extending to 5th segment, the ventral surface brown with sublateral series of orange points. Fore wing whitish, the veins brown, the series of orange spots placed on diffused brown bands, conjoined diffused brown patches on medial area; an orange point at base; two subbasal spots above and below cell; an antemedial series oblique from costa to below cell, where it is angled, then incurved; two spots in end of cell and one beyond it; the postmedial series excurved from below costa to vein 3; a subterminal series bent outwards at vein 7; a terminal series on the veins. Hind wing brownish white, the veins and inner, costal, and terminal areas suffused with brown; a terminal series of orange points on the veins.

♀. Patagia with curved white fascia above the orange spots; fore wing with one orange spot in end of cell and no spot beyond the cell.

Hab. VENEZUELA; BRAZIL, Petropolis, type † and type † *nexoides* ♂ ♀ in Coll. Schaus. *Exp.*, ♂ 66, ♀ 56 millim.

1427. *Opharus chorima*. (Plate XXXVIII. fig. 12.)*Phægoptera chorima*, Schaus, J. N. Y. Ent. Soc. iv. p. 140 (1896).

Head and thorax black-brown; sides and upper part of frons with orange-red spots; tegulæ edged with orange-red; neck, patagia, meso- and metathorax with orange-red spots; coxæ orange-red; abdomen orange, with large dorsal black patch extending to 4th segment, the ventral surface black with lateral series of orange spots. Fore wing brown, the veins black, the dull orange markings on diffused black bands and patches; a basal dull orange point; an antemedial maculate band angled on median nervure and ending at vein 1; a spot in end of cell with black patch above it on costa; a postmedial series of spots excurved from below costa to vein 3; a subterminal series of spots, the spots above veins 6 and 4 displaced outwards; a terminal series of small triangular spots on the veins. Hind wing fuscous, with some paler marks in interspaces especially below the cell.

Hab. BRAZIL, Castro Paraña, 1 ♂. *Exp.* 72 millim. Type † in Coll. Schaus.

1428. *Opharus flavopunctata*.*Phegoptera flavopunctata*, Herr.-Schäff. Aussereur. Schmett. f. 289 (1855);

Kirby, Cat. Het. p. 212.

Halesidota catenata, Wlk. vii. 1706 (1856); Kirby, Cat. Het. p. 212.*Phægoptera fumosa*, Butl. A. M. N. H. (4) xvi. p. 233 (1875); Kirby, Cat. Het. p. 212.

Head and thorax black-brown; palpi and frons at sides, back of head, extremity of tegulæ, patagia, mesothorax, front of pectus, and coxæ with orange spots; metathorax with tufts of orange hair; abdomen orange, with dorsal black-brown patch rounded off on 4th segment, the ventral surface black-brown with sublateral series of orange points. Fore wing pale brown with a vinous tinge, the veins, cell, and submedian fold streaked with black; a blackish subbasal band from costa to submedian fold with two orange points on it; an antemedial band with orange points on it excurved from costa to below cell, then incurved and ending at vein 1; a spot with orange point on it in end of cell; a postmedial band with small orange spots on it, excurved from costa to vein 3, then incurved; an irregularly dentate subterminal line with some orange points on it; a terminal series of small black-edged orange triangular spots on the veins. Hind wing semihyaline brownish white, the veins brown.

Hab. BRAZIL, 1 ♂, 1 ♀. *Exp.* 68 millim. Type † in Coll. Staudinger; type *catenata* in Mus. Oxon.

*1429. *Opharus flavostrigata*.*Phegoptera flavostrigata*, Herr.-Schäff. Aussereur. Schmett. f. 294 (1855);

Kirby, Cat. Het. p. 212.

Head and thorax pale purplish brown; the vertex of head, shoulders

patagia, and metathorax with orange spots; abdomen black, with subdorsal series of orange spots and lateral series of points. Fore wing pale purplish brown; a blackish patch at base of costa, with one orange basal and two subbasal spots on it; antemedial, post-medial, and subterminal series of orange spots on blackish bands, the 1st excurred below costa, the 2nd from costa to vein 4 and with the spots on that part obsolete, the last angled inwards below costa, then slightly incurved; a medial blackish shade; a terminal series of small black and orange spots on the veins. Hind wing pale grey-brown, suffused with blackish to beyond middle except a discoidal patch; a terminal blackish band from costa to vein 3.

Hab. BRAZIL. *Exp.* 56 millim. This species is unknown to me.

*1430. *Opharus picturata*.

Halesidota picturata, Burm. Descr. Rep. Arg. v. p. 442 (1878); Kirby, Cat. Het. p. 212.

♀. Grey-brown; palpi black, the base of 1st and 2nd joints and a point on the 3rd joint orange; frons and vertex of head with black points; tegulæ and patagia with black points; thorax orange with black dorsal streak; legs brown, the fore femora and tibiæ fringed with orange, the mid and hind tibiæ orange at extremity; abdomen orange, the 2nd segment almost entirely black, the terminal segments with dorsal and subdorsal black spots, the ventral surface whitish with three black streaks. Fore wing with six oblique blackish bands with series of pale spots on them, the 4th at end of cell attenuate towards inner margin, the 6th narrow. Hind wing with traces of three obscure bands, the terminal band most prominent.

Hab. URUGUAY, Conchas, Banda Oriental. *Exp.* 54 millim. This species is unknown to me.

1431. *Opharus depicta*.

Phegoptera depicta, Herr.-Schäff. Aussereur. Schmett. f. 292 (1855); Kirby, Cat. Het. p. 212.

♀. Head and thorax grey-white; frons with lateral crimson marks below and a pair of crimson points above it; vertex of head with lateral black and crimson points; antennæ black; tegulæ edged with black, crimson below; patagia with black-edged orange stripe; metathorax with crimson patches; pectus with small crimson spots; coxæ crimson and black; legs grey and black; abdomen crimson, with large black-brown patch on dorsum from near base to beyond middle and followed by a black point, the extremity grey defined by black line, the lateral surface with whitish and black patches and black striæ, the ventral surface whitish with sublateral crimson and black spots. Fore wing white; the veins black; the markings olive-brown irrorated with white and edged with black; a spot at base of costa; an antemedial band with irregular edges strongly angled outwards on median nervure, then inwards in sub-

median fold and ending at vein 1, greyish black-edged spots beyond it in submedian interspace and below vein 1; a patch from middle of costa to above median nervure with irregular edges, constricted at subcostal nervure and angled inwards on discal fold; a post-medial series of conjoined somewhat triangular spots, the spot above vein 5 with a spot on its inner side, and the spots above veins 4 and 2 and above and below 1 with short black streaks from them; a subterminal series of somewhat diamond-shaped spots, the spot above vein 6 close to the termen, and the three spots from vein 4 to 1 obliquely placed from the postmedial series to above tornus, the lowest spot lunulate; a terminal series of small spots on the veins. Hind wing fuscous black, with diffused white in the interspaces towards costa and on terminal area from vein 3 to costa.

Hab. BRAZIL, Espiritu Santo, 1 ♀; N. Friburgo, Petropolis. *Exp.* 76 millim.

1432. *Opharus nexa*.

Phegoptera nexa, Herr.-Schäff. Aussereur. Schmett. f. 290 (1855); Kirby, Cat. Het. p. 212.

Phegoptera punctularis, Herr.-Schäff. Aussereur. Schmett. f. 291 (1855); Kirby, Cat. Het. p. 212.

Halesidota flavopunctata, Wlk. iii. 740 (1855), nec Herr.-Schäff.; Kirby, Cat. Het. p. 212.

♂. Head and thorax black-brown; palpi and frons at sides, vertex of head, tegulæ at extremities, patagia, meso- and metathorax, and coxæ with orange spots, the tegulæ and patagia sometimes with more or less developed white spots; abdomen orange, with black-brown dorsal patch rounded off on 4th segment, the ventral surface black-brown with sublateral series of orange points and obscure whitish bands on basal segments. Fore wing white, the veins, cell, and submedian fold streaked with brown; a basal brown patch with two orange points on it; an antemedial waved band with small orange spots on it, oblique from costa to median nervure and strongly incurved in submedian interspace; a medial patch with one or two orange points on it from costa to or to above median nervure; a postmedial maculate band with yellow spots on it excurved from costa to vein 3, then incurved, often developed into a patch on costa, sometimes with two extra yellow points on it, some slight streaks from the outer edge of band; an irregular subterminal series of brown spots with orange spots on them bent outwards to join the terminal band above vein 6 and inwards to the postmedial band above vein 3; a terminal brown band with triangular orange spots on the veins. Hind wing semihyaline white, the veins and termen pale brown.

♀. Hind wing more or less completely suffused with fuscous brown, leaving white patches below the cell and an irregular subterminal series.

Hab. BRAZIL, 5 ♂, 3 ♀. *Exp.*, ♂ 48-56, ♀ 50-62 millim. Type † and type † *punctularis* in Coll. Staudinger.

1433. *Opharus astur*.

Noctua astur, Cram. Pap. Exot. ii. pl. 120, B (1779); Druce, Biol. Centr.-Am., Het. i. p. 99; Kirby, Cat. Het. p. 207.

Carales albicans, Wlk. iii. 730 (1855).

Carales maculicollis, Wlk. iii. 730 (1855); Kirby, Cat. Het. p. 207.

Halisidota pustulata, Pack. Rep. Peabody Acad. i. p. 63 (1869); Kirby, Cat. Het. p. 211.

Head and thorax white; palpi with black patches on the joints and some orange at extremity of 2nd, antennæ brown, black points on vertex of head, on tegulæ, and two on patagia, shoulders with black streaks, the patagia and thorax tinged with brown; legs orange and white with some fuscous spots; abdomen orange with dorsal, two lateral, and sometimes a ventral series of black spots. Fore wing white, with pairs of irregular dentate brown lines with brown suffusion between them; a subbasal pair from costa to submedian fold; a curved antemedial pair, conjoined in cell and submedian fold to the medial pair, which are angled inwards to meet them; a similar band at end of cell from costa to median nervure, where it is joined to the medial and postmedial pairs of lines; a similar terminal band, narrowing at vein 2 and ending at vein 1; short black streaks in and below middle of cell and on the base of veins arising from its angles. Hind wing semihyaline whitish; a terminal brown band with irregular inner edges narrowing to a point at vein 1, and with some obscure whitish spots on it between veins 5 and 2.

Hab. MEXICO (*Sallé*), 2 ♂, Jalapa (*Hoega*), 3 ♂, 1 ♀, Coatepec (*Brooks*), 2 ♀, Vera Cruz, 2 ♂, Jalisco (*Schumann*), 1 ♀, Misantla (*Trujillo*), 2 ♂; GUATEMALA (*Rodriguez, Champion*), 3 ♀; COSTA RICA (*Underwood*), 1 ♀; PANAMA (*Champion*), 3 ♀; Godman-Salvin Coll.; COLOMBIA (*Dohrn*), 1 ♂; VENEZUELA, 1 ♂ type *albicans*; BRAZIL, 1 ♀ type *maculicollis*, Up. Amazons. *Exp.* 50–66 millim.

1434. *Opharus polystrigata*, n. sp. (Plate XL. fig. 1.)

♀. Whitish; palpi yellow, black at sides towards base; frons and vertex of head with black patches edged with yellow; antennæ yellow; tegulæ and patagia edged with yellow, the former with black patch, the latter irrorated with black; metathorax edged with yellow and with a black spot; pectus and legs orange tinged with brown; abdomen orange with dorsal, lateral, and ventral series of black patches. Fore wing thinly scaled, thickly spotted and striated with fuscous brown; a very obscure subterminal diffused whitish line; the termen pale brown with a series of minute striæ across the veins. Hind wing semihyaline whitish, the veins brown; the terminal area suffused with brown.

Hab. BOLIVIA, Chaco (*Garlepp*), 1 ♀ type. *Exp.* 52 millim.

Genus **HEMIHYALEA**, nov.

Type, *H. cornea*.

Proboscis fully developed; palpi obliquely upturned, the 2nd joint fringed with hair, the 3rd moderate, naked, porrect; antennæ long, with moderate branches in male, with short branches in female; tibiæ with the spurs moderate;

abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from towards angle of cell; 4, 5 shortly stalked or from cell; 6, 7 from upper angle; 8 from middle of cell.

A. Abdomen crimson.

a. Thorax crimson *ergana*.

b. Thorax ochreous.

a¹. Hind wing with the inner area suffused with crimson.

a². Hind wing without terminal band *cornea*.

b². Hind wing with terminal band on apical half *edwardsi*.

b¹. Hind wing with the inner area not suffused with crimson *labecula*.

B. Abdomen orange-red *utica*.

C. Abdomen orange.

a. Fore wing grey, with series of orange spots on dark bands. *xanthosticta*.

b. Fore wing brown, with a few orange spots on dark lines. *diminuta*.

c. Fore wing hyaline whitish *hyalina*.

D. Abdomen whitish *alba*.

1435. *Hemihyalea ergana*.

Phæoptera ergana, Dognin, Le Nat. (2) v. p. 242 (1891); id. Léop. Loja, pl. 8. f. 19; Kirby, Cat. Het. p. 906.

♂. Head ochreous; palpi crimson at sides; vertex of head crimson; tegulæ and patagia ochreous, tinged with crimson at edges; thorax and pectus crimson; legs ochreous; abdomen crimson above, the ventral surface and claspers ochreous. Fore wing brownish ochreous, the cell, the greater part of submedian interspace, and base of interspaces beyond the cell hyaline. Hind wing hyaline, the veins and margins ochreous.

♀. Abdomen without crimson on dorsum.

Hab. VENEZUELA, Merida; ECUADOR, Loja; BOLIVIA, Chaco, 1 ♂. *Exp.* 60 millim. Type † in Coll. Dognin.

1436. *Hemihyalea cornea*.

Phæoptera cornea, Herr.-Schäff. Aussereur. Schmett. ff. 61, 62 (1853);

Druce, Biol. Centr.-Am., Het. i. p. 95; Kirby, Cat. Het. p. 212.

Halesidota mansueta, H. Edw. Papilio, iv. p. 75 (1884); Kirby, Cat. Het. p. 213.

Phæoptera rhoda, Druce, A. M. N. H. (6) xiii. p. 173 (1894); id. Biol. Centr.-Am., Het. ii. p. 375, pl. 74. f. 17.

Phæoptera daraba, Druce, A. M. N. H. (6) xiii. p. 173 (1894); id. Biol. Centr.-Am., Het. ii. p. 374, pl. 74. f. 15.



Fig. 84.—*Hemihyalea cornea*, ♂. $\frac{1}{4}$.

Ochreous-brown; palpi with black marks at sides; antennæ

red-brown; femora crimson above; abdomen crimson, the extremity and ventral surface ochreous. Fore wing brownish ochreous thickly irrorated with brown, some specimens immaculate, some with sub-basal, antemedial, medial, postmedial, and subterminal series of small black-edged ochreous spots from cell, median nervure, and vein 4 more or less developed. Hind wing semihyaline, the termen ochreous, the inner area suffused with crimson.

Ab. 1. *mansueta*. Fore wing without black edges to the ochreous spots, which are more prominent, the subbasal, postmedial, and subterminal series being often complete.

Ab. 2. Darker brown; fore wing with black edges to the spots, which are prominent, the inner area with them well developed.

Ab. 3. *daraba*. Fore wing with the whole discal area hyaline, the ochreous spots on the marginal areas well developed.

Ab. 4. *rhoda*. Fore wing with the whole discal area hyaline, the ochreous spots on marginal areas almost obsolete.

Hab. MEXICO, Jalapa (*Trujillo, Hoege*), 3 ♂, 3 ♀, Orizaba, Jalisco; GUATEMALA (*Rodriguez*), 4 ♂, 1 ♀ type *rhoda*; COSTA RICA (*Underwood*), 1 ♀, Godman-Salvin Coll.; PANAMA, Chiriqui; COLOMBIA, R. Dagua; VENEZUELA. *Exp.*, ♂ 52-60, ♀ 64 millim.

1437. *Hemihyalea edwardsi*.

Halisidota edwardsii, Pack. Proc. Ent. Soc. Philad. iii. p. 129 (1864);

Stretch, Zyg. & Bomb. N. Am. i. p. 88, pl. 3. f. 5; Kirby, Cat. Het. p. 210.

Halisidota translucida, Wlk. xxxi. 310 (1865).

Phægoptera quercus, Boisd. Ann. Soc. Ent. Belg., xii. p. 81 (1869).

Head and thorax ochreous; palpi with the 2nd joint crimson at sides; antennæ brown; patagia with slight black points; fore femora crimson above, the tibiæ and tarsal joints ringed with fuscous; abdomen crimson above, with dorsal black spots on terminal segments, the ventral surface ochreous, 4 lateral series of black points. Fore wing ochreous, irrorated with fuscous, the disk semihyaline; traces of subbasal, antemedial, two medial and post-medial bands forming dark patches on costal and inner areas; a dark terminal band. Hind wing semihyaline, with narrow brown terminal band from apex to vein 2 with waved inner edge, the inner area tinged with crimson.

Hab. CALIFORNIA, 1 ♂, 1 ♀, type *translucida*, (*Mathew*) 1 ♀. *Exp.* 70 millim.

1438. *Hemihyalea labecula*. (Plate XXXIX. fig. 1.)

Halesidota labecula, Grote, Papilio, i. p. 174 (1881); Kirby, Cat. Het. p. 210.

Head and thorax ochreous brown, palpi with lateral black spots; fore femora crimson above, the base and extremity of tibiæ and the tarsal joints ringed with black; abdomen tinged with crimson above, with slight dark stripe towards extremity, the anal tufts and ventral surface ochreous, a lateral series of black spots. Fore

wing semihyaline, thickly irrorated with fuscous; the costal and inner areas ochreous; a subbasal dark mark on costa; traces of antemedial, two medial, and postmedial bands forming dark patches on the costa and inner margin, where the first three are approximated; an obscure subterminal dentate ochreous line. Hind wing semihyaline, the inner area tinged with ochreous; the termen dark towards apex.

Hab. U.S.A., Colorado (*Cockerell*), 1 ♀, New Mexico. *Exp.* 64 millim.

Subsp. 1. *mansueta*, Druce, Biol. Centr.-Am., Het. i. p. 94, pl. 10. f. 1 (nec H. Edw.).

♀. Head and thorax grey-brown; patagia with black stripes and spot; abdomen with black dorsal bands on terminal segments. Fore wing greyer, with the markings darker, a black spot at origin of vein 2; a black line on discocellulars and base of vein 5 on a dark discoidal patch; a darker terminal band. Hind wing with more brown on termen.

Hab. MEXICO, Milpas (*Forres*), 1 ♀, Godman-Salvin Coll. *Exp.* 76 millim.

1439. *Hemihyalea utica*.

Carales utica, Druce, Biol. Centr.-Am., Het. ii. p. 380, pl. 75. f. 17 (1897).

Head and thorax brownish grey mixed with black; antennæ, femora above, and inner side of hind tibiæ and tarsi scarlet; abdomen orange-red, with some dorsal black spots towards extremity, the ventral surface greyish with black bands. Fore wing pale brown thickly striated with black; a short orange-red fascia at base of inner margin; a yellowish-white patch on costa near base conjoined to an antemedial spot below the cell; the discal area with patches of hyaline between the black striæ, especially beyond the cell, where they form an obscure postmedial line; a diffused discoidal black spot; a subterminal series of obscure hyaline lunules; a terminal series of white points. Hind wing semihyaline, the inner area clothed with orange-red hair; a brownish discoidal spot and broad terminal band with some hyaline marks near apex and white points beyond them on the cilia.

Hab. MEXICO, Orizaba, 1 ♂. *Exp.* 56 millim. Type † in Coll. Schaus.

1440. *Hemihyalea xanthosticta*, n. sp. (Plate XXXVIII. fig. 5.)

Head and thorax fuscous; sides of frons, back of head, and base of patagia with orange spots; neck and coxæ orange; abdomen orange, with dorsal series of black spots, the ventral surface black with sublateral series of orange spots. Fore wing slate-grey; the veins, cell, and submedian fold with blackish streaks; a subbasal orange spot on fuscous patch; curved antemedial and sinuous postmedial bands with series of orange spots on the veins; a rather irregular subterminal dark line angled inwards above vein 5 and

bent outwards to tornus. Hind wing fuscous, the veins darker; an indistinct curved dark postmedial band.

Hab. ECUADOR, 1 ♀; BRAZIL, Casa Branca, Rio Janeiro (*C. Bock*), São Paulo (*D. Jones*), 2 ♀, N. Friburgo, 1 ♂ type, 1 ♀. *Exp.* 52 millim.

1441. *Hemihyalea diminuta*. (Plate XXXVIII. fig. 19.)

Halesidota diminuta, Wlk. iii. 741 (1855); Kirby, Cat. Het. p. 212.

♂. Head and thorax brown; basal joint of antennæ, back of head, and patagia with small orange spots; coxæ orange; abdomen orange, with dorsal series of black spots, the ventral surface brown, with the anal tuft orange. Fore wing brown, an orange point at base; antemedial, postmedial, and subterminal minutely waved dark lines with series of orange spots on them, the 1st angled in cell and with a double spot on vein 1 only, the 2nd excurved beyond lower angle of cell, and the spots obsolescent towards costa, the last with some of the spots often obsolete. Hind wing paler brown.

Hab. BRAZIL, Rio Janeiro, 1 ♂ type. *Exp.* 44 millim.

1442. *Hemihyalea hyalina*.

Phæoptera hyalina, Druce, A. M. N. H. (6) iv. p. 87 (1889); id. Biol. Centr.-Am., Het. ii. p. 375, pl. 74. f. 16; Kirby, Cat. Het. p. 212.

♀. Head and thorax yellowish white; antennæ ochreous; abdomen white, the hair on dorsum pale orange. Wings hyaline; fore wing with the costal and inner areas clothed with white scales; both wings with the cilia white.

Hab. MEXICO, Guerrero (*H. H. Smith*), 1 ♀ type, Godman-Salvin Coll. *Exp.* 62 millim.

1443. *Hemihyalea alba*.

Phæoptera alba, Druce, Biol. Centr.-Am., Het. i. p. 95, pl. 10. f. 9 (1884); Kirby, Cat. Het. p. 214.

♀. Head, thorax, and abdomen dirty white; antennæ orange. Fore wing semihyaline white, the veins and margins with somewhat silky white streaks. Hind wing hyaline, the veins and termen clothed with white scales.

Hab. MEXICO, Hidalgo (*Trujillo*), 1 ♀, Orizaba; GUATEMALA (*Rodriguez*), 1 ♀, Godman-Salvin Coll.; PANAMA, Chiriqui, type † in Coll. Staudinger.

Genus **PSEUDOPHARUS**, nov.

Type, *P. amata*.

Proboscis fully developed; palpi upturned, not reaching vertex of head, the 3rd joint short, porrect; antennæ of female with short branches; head and thorax clothed with rough hair; tibiæ with the spurs short; abdomen dorsally clothed with hair at base. Fore wing with vein 3 from well before angle of cell; 5 from just above angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with veins 3 and 5 from angle of cell; 4 absent; 6, 7 from upper angle; 8 from near angle of cell.

*1444. *Pseudopharus amata*.*Opharus amata*, Druce, A. M. N. H. (7) vi. p. 67 (1900).Fig. 85.—*Pseudopharus amata*, ♀. $\frac{1}{2}$.

♀. Head and thorax dull black; abdomen orange, banded with black, the hair at base black, the ventral surface black. Fore wing olive-yellow tinged with fuscous, especially on terminal half; the veins black: a fuscous discoidal shade. Hind wing dull black, with some hyaline in and below cell.

Hab. VENEZUELA, Merida (*Briceno*), type† ♀ in Coll. Druce. *Exp.* 50 millim.

Genus **AMASTUS**.*Amastus*, Wlk. iii. 723 (1855)Type.
collaris.

Proboscis fully developed; palpi upturned, the 2nd joint not reaching vertex of head, the 3rd porrect; antennæ of male bipectinate, with moderate branches; tibiae with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 3 from well before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from beyond middle of cell.

A. Abdomen black, crimson at base and extremity.

a. Fore wing with series of white spots

adela.

b. Fore wing with subcostal white fascia

baucis.

B. Abdomen grey-brown, with black bands on terminal segments.

phaeosoma.

C. Abdomen dorsally crimson towards base.

a. Patagia with white spots

albipuncta.

b. Patagia without white spots.

a¹. Abdomen without lateral series of black and white spots.a². Patagia not edged with white above.a³. Patagia with black stripe.a⁴. Fore wing with maculate brown postmedial band*maculicincta*.b⁴. Fore wing without maculate brown postmedial band*mesorhoda*.b³. Patagia without black stripe.a⁴. Thorax not crimson.a⁵. Fore wing dark brown mottled with yellow-brown*ambrosia*.b⁵. Fore wing thickly irrorated with black-brown*erebella*.c⁵. Fore wing red-brown*rufator*.b⁴. Thorax crimson*medica*.

- δ^2 . Patagia edged with white above.
 a^3 . Abdomen with the terminal segments black and white *collaris*.
 δ^3 . Abdomen with the terminal segments orange ... *coccinator*.
 δ^1 . Abdomen with lateral series of black and white spots.
 a^2 . Patagia grey; abdomen without dorsal blackish patch *suffusa*.
 δ^3 . Patagia white.
 a^3 . Abdomen with dorsal blackish patch *cymothoë*.
 b^3 . Abdomen without dorsal black patch *rhodator*.
 D. Abdomen orange or orange-red.
 a . Abdomen with lateral series of black and white spots... *minerva*.
 δ . Abdomen without lateral black and white spots.
 a^1 . Patagia whitish with orange stripe.
 a^2 . Thorax with dorsal white stripe *aconia*.
 δ^2 . Thorax without dorsal white stripe *persimilis*.
 δ^1 . Patagia uniform whitish; thorax with black stripe. *elongata*.
 c^1 . Patagia grey-brown with orange stripe.
 a^2 . Thorax with dorsal grey stripe *ochraceator*.
 δ^2 . Thorax without dorsal stripe *coprophora*.
 d^1 . Patagia uniform orange.
 a^2 . Fore wing not semihyaline, a pale postmedial line. *alsa*.
 δ^2 . Fore wing semihyaline except terminal area, no postmedial line *conspicua*.
 E. Abdomen brown *tumbilla*.
 F. Abdomen brownish white; thorax crimson *hyalina*.

*1445. *Amastus adela*. (Plate XLIV. fig. 12.)

Amastus adela, Schaus, A. M. N. H. (7) vii. p. 267 (1901).

♂. Black-brown; palpi crimson, the 3rd joint black with white tip; frons pinkish white; shaft of antennæ and streaks behind them crimson; stripes on tegulæ, patagia, and thorax white tinged with crimson; pectus with crimson lateral stripes; legs banded with crimson and whitish; abdomen with crimson lateral and sublateral stripes, the terminal segments crimson with dorsal blackish spots. Fore wing with crimson marks at base; a subbasal crimson-tinged spot below costa; antemedial elongate spots above and below subcostal nervure and vein 1 and a round spot below cell; elongate spots in and above end of cell; a white discoidal spot; a postmedial series of spots which are small and curved round end of cell, then larger and oblique; a subterminal series of elongate spots formed of two conjoined series. Hind wing with a slight crimson tinge at base; a subterminal series of five white spots between veins 7 and 2.

Hab. BRAZIL, Castro Paraña, type ♂ in Coll. Schaus. *Exp.* 50 millim.

1446. *Amastus baucis*.

Charidea baucis, Dalm. Anal. Ent. p. 50 (1823); Kirby, Cat. Het. p. 906. *Glaucopsis bombycina*, Perty, Del. Anim. Art. Bras. p. 158, pl. 31. f. 13 (1834); Kirby, Cat. Het. p. 178.

♀. Head and thorax crimson; antennæ and patches on tegulæ black; patagia black with white stripe angled in front; legs banded with black; abdomen black, with some crimson at base and the terminal segments crimson; a sublateral stripe white anteriorly,

crimson posteriorly; wings black-brown. Fore wing with a subcostal white stripe from base tapering to middle, obsolescent and crimson on underside; cilia tipped with white.

Hab. CUBA; BRAZIL, Para, 1 ♀; BOLIVIA, Bueyes. *Exp.* 60 millim.

1447. *Amastus phæosoma*, n. sp. (Plate XXXIX. fig. 10.)

♀. Head and thorax ochreous, largely mixed with dark brown; palpi at sides, antennæ, a line across tegulæ, and streaks on patagia black; abdomen pale greyish brown, the hair at base rather browner, the terminal segments with black segmental lines, the anal segment black, a lateral series of black spots, the ventral surface suffused with fuscous. Fore wing grey-brown, thickly irrorated, striated and suffused with black; a black mark below base of cell and short streak in submedian fold; black marks at angles of cell; a strongly dentate blackish subterminal line diffused on inner side and with grey on its outer edge towards costa. Hind wing semihyaline greyish brown, the apical area and cilia rather browner.

Hab. PERU, Quito (*Soderström*), 1 ♀ type. *Exp.* 78 millim.

1448. *Amastus albipuncta*, n. sp. (Plate XXXIX. fig. 8.)

♂. Head and thorax black-brown; sides of frons above with deep crimson spots, back of head crimson; tegulæ with crimson points in front and edged with crimson behind; patagia with crimson points; tegulæ with small white spots and patagia with large spots on shoulders and three small spots; coxæ dull crimson; abdomen dull crimson above, the ventral surface black, emitting lateral triangular marks into crimson area, with white lateral and sublateral points on them, subventral crimson patches and some white on medial line, claspers edged with crimson. Fore wing reddish brown, the veins with dark streaks; a crimson point at base; an antemedial blackish line oblique from costa to submedian fold, where it is angled; a medial band expanding widely towards costa; a slight striga in end of cell; a band just beyond the cell expanding into a patch on costa and strongly incurved below vein 4; the postmedial line slightly incurved above inner margin; a dentate subterminal line strongly excurved between veins 6 and 7, a terminal series of yellowish points on the veins. Hind wing semihyaline whitish, the veins and marginal areas brown.

Hab. VENEZUELA, 1 ♂ type. *Exp.* 82 millim.

1449. *Amastus maculicincta*, n. sp. (Plate XXXIX. fig. 4.)

♂. Head whitish; palpi black-brown; antennæ, tegulæ, and patagia pale brown; neck and edges of tegulæ deep crimson, patagia with black stripes; thorax deep crimson; legs brown; abdomen brown, dorsally deep crimson towards base and with blackish bands towards extremity, subdorsal whitish stripes and a lateral series of black points. Fore wing whitish and reddish brown; a curved antemedial black band with pale edges; a similar

broad oblique medial band from subcostal nervure to inner margin, towards which it is obsolescent and includes a black discoidal lunule; a black-edged red-brown maculate postmedial band, ex-curved from costa to vein 4, then oblique; a diffused dentate subterminal black line with red-brown point on it below costa. Hind wing pale semihyaline, the veins and marginal areas tinged with yellow-brown.

Hab. BOLIVIA, Chaco (*Garlepp*), 1 ♂ type. *Exp.* 66 millim.

1450. *Amastus mesorhoda*. (Plate XXXIX. fig. 11.)

Amastus mesorhoda, Wlk. vii. 1704 (1856); Kirby, Cat. Het. p. 213.

Head and thorax grey-brown; antennæ pale red-brown; palpi and back of head black; tegulæ with black band, dark brown at tips; patagia with black stripe; pectus mixed with red-brown hair; abdomen black, dorsally clothed with pale crimson hair to beyond middle, the extremity and ventral surface grey-brown. Fore wing with the disk semihyaline, thickly irrorated with fuscous black scales; the veins, costal, inner, and terminal areas brown irrorated with dark brown; the discocellulars blackish with whitish mark above them on costa; an obscure irregular subterminal line with blackish suffusion on its inner side. Hind wing pale semihyaline brown.

Hab. COLOMBIA, Bogotá, type † in Mus. Oxon. *Exp.* 66–70 millim.

*1451. *Amastus ambrosia*. (Plate XXXIX. fig. 2.)

Phagoptera ambrosia, Druce, P. Z. S. 1890, p. 498; Kirby, Cat. Het. p. 214.

♀. Head and thorax dark brown mixed with black and pinkish; abdomen black, the dorsum clothed with crimson hair, the two sub-terminal segments with crimson dorsal bands and the terminal with a pair of spots. Fore wing dark brown, mottled and striated with pale yellow-brown; the veins black; an irregularly dentate sub-terminal fine yellow line, the area beyond it reddish brown. Hind wing semihyaline brown, with a series of obscure dentate yellowish marks on termen.

Hab. COLOMBIA, Antioquia, Frontino (*Salmon*), type † ♀ in Coll. Druce. *Exp.* 88 millim.

1452. *Amastus erebella*.

Lophocampa erebella, Maass. Stübel's Reisen S. Amer., Lep. p. 131, pl. iv. f. 29 (1890); Kirby, Cat. Het. p. 906.

♀. Head and thorax pale and dark brown; patagia tipped with crimson; pectus and coxæ with some crimson hair; abdomen brown, dorsally clothed with pale crimson hair towards base. Fore wing hyaline, thickly irrorated with dark brown scales. Hind wing hyaline, sparsely clothed with brownish-white scales, the inner area with brown hair.

Hab. COLOMBIA, Bogotá, 1 ♀. *Exp.* 60 millim.

1453. *Amastus rufator*. (Plate XXXIX. fig. 12.)

Halesidota rufator, Wlk. xxi. 312 (1864); Kirby, Cat. Het. p. 213.

♀. Head, thorax, and abdomen red-brown; pectus tinged with vinous red; sides of thorax and the hair at base of abdomen pink. Fore wing red-brown, thickly scaled; an obscure waved subterminal line. Hind wing pale brownish semihyaline, the cilia darker.

Hab. COLOMBIA, Bogotá (*Stevens*), 1 ♀ type. *Exp.* 68 millim.

*1454. *Amastus medica*.

Phægoptera medica, Dognin, Le Nat. (2) v. p. 242 (1891); id. Lép. Loja, pl. 8. f. 18; Kirby, Cat. Het. p. 906.

♀. Head dark brown, the vertex crimson; tegulæ and patagia olive-yellow, the former dark at sides; thorax and pectus crimson-red; legs dark brown; abdomen crimson above, with dark brown bands on terminal half, and the ventral surface dark brown. Fore wing dark red-brown; a blackish discoidal mark and curved diffused postmedial band with slight olive-yellow marks at costa and inner margin. Hind wing pale red-brown and thinly scaled, darker towards termen.

Hab. ECUADOR, Loja. *Exp.* 72 millim. Type † in Coll. Dognin.

1455. *Amastus collaris*.

Phægoptera collaris, Herr.-Schäff. Aussereur. Schmett. f. 65 (1853); Kirby, Cat. Het. p. 213.



Fig. 86.—*Amastus collaris*, ♂. $\frac{1}{2}$.

♂. Head and thorax orange-brown; 2nd and 3rd joints of palpi and antennæ black; frons white; tegulæ and shoulders with broad white band, patagia edged with white above; legs brown, the femora fringed with white; abdomen salmon-pink, the last four segments at sides and the terminal segment above black, banded with white, the ventral surface white, claspers fulvous. Fore wing orange-brown, the whole discal area semihyaline; a somewhat darker discoidal patch; an obscure highly sinuous subterminal pale line. Hind wing hyaline, the veins, inner area, and termen tinged with brownish.

♀. Abdomen with the last four segments black above, slightly suffused with white, the anal segment white.

Hab. VENEZUELA, 1 ♂, 2 ♀. *Exp.*, ♂ 66, ♀ 76 millim.

Subsp. 1. Abdomen with orange dorsal patch on subterminal segment.

Hab. COLOMBIA, Coll. Schaus.

1456. *Amastus coccinator*. (Plate XXXIX. fig. 3.)

Phægoptera coccinator, Schaus, A. M. N. H. (7) vii. p. 267 (1901).

♂. Head deep crimson; palpi brown in front and at tips; frons white; antennæ black; tegulæ and patagia bright chestnut, the front of tegulæ crimson, followed by a white band extending across patagia, which have a white stripe on upper margin; thorax crimson; legs brown and white, the femora crimson above; abdomen orange-fulvous, dorsally clothed with crimson hair to near extremity, the ventral surface white. Fore wing semihyaline chestnut, the inner margin white; traces of a pale diffused subterminal band slightly angled at vein 7. Hind wing hyaline, the veins pale brown; the inner area sparsely clothed with pink hair, the terminal area with pale brown scales.

Hab. COLOMBIA, type ♀ in Coll. Schaus; VENEZUELA, Merida, 1 ♀; BOLIVIA, Chaco. *Exp.* 74 millim.

1457. *Amastus suffusa*.

Phægoptera suffusa, Herr.-Schäff. Aussereur. Schmett. f. 67 (1853); Kirby, Cat. Het. p. 214.

♀. Head, tegulæ, and patagia grey-brown; 3rd joint of palpi and antennæ blackish, neck with crimson ring, the tips of tegulæ and stripes on patagia orange-brown edged with black; thorax crimson; legs grey-brown, with tufts of dull crimson hair on coxæ; abdomen orange, the hair on dorsum crimson, a lateral series of black-edged grey spots except towards base, the spot on terminal segment elongate, the ventral surface grey-brown. Fore wing ochreous suffused with ferruginous brown, the veins darker; an obscure antemedial blackish band dilated and angled in cell and with waved edges; a similar medial band, dilated from costa to median nervure; a dark mark beyond discocellulars; a double-waved curved postmedial line filled in with ochreous; a pale dentate subterminal line. Hind wing brownish semihyaline, the marginal areas more thickly scaled.

Hab. COSTA RICA (*Rogers*), 2 ♀, Godman-Salvin Coll.; VENEZUELA. *Exp.* ♀ 78-84 millim. Type ♀ in Coll. Staudinger.

1458. *Amastus cymothoë*. (Plate XXXIX. fig. 6.)

Amastus cymothoë, Druce, A. M. N. H. (6) xvi. p. 37 (1895).

♂. Head white, palpi crimson at base, black at sides, sides of frons and vertex of head brown and black; antennæ black;

tegulæ and patagia white, the former with brown and black patches, the latter with brown and black streaks; thorax brown; pectus and legs brown and white, the coxæ with crimson tufts; abdomen crimson with black bands, the hair on dorsum brown, a lateral series of black and white triangular spots, the ventral surface white. Fore wing hyaline; the veins with black points; the costal and inner margins white with four black spots; an indistinct waved subterminal line, the apex fuscous. Hind wing hyaline, clothed with white scales towards margins; a dark mark on costa towards apex; cilia fuscous with white points.

Hab. COLOMBIA, Bogotá, 2 ♂; BOLIVIA, type† in Coll. Druce. *Exp.* 62 millim.

1459. *Amastus rhodator*, n. sp. (Plate XXXIX. fig. 13.)

♀. Head white; palpi and antennæ brown; tegulæ white with blackish edges, neck and underside of tegulæ crimson; patagia white with black-edged orange stripe; thorax brown and grey; legs grey-brown, the coxæ crimson; abdomen dorsally crimson, with lateral series of black and white spots, the ventral surface grey-brown. Fore wing semihyaline, with sparse fuscous scales; the inner and terminal areas more thickly scaled; the inner margin white; the veins brown; a dentate white subterminal line. Hind wing semihyaline, the veins and margins brownish.

Hab. BOLIVIA, Chaco (*Garlepp*), 1 ♀ type. *Exp.* 72 millim.

1460. *Amastus minerva*.

Phægoptera minerva, Dognin, Le Nat. (2) v. p. 242 (1891); id. Lép. Loja, pl. 8. f. 16; Kirby, Cat. Het. p. 907.

Head orange-brown variegated with black, and with grey on frons and between antennæ, which are black; tegulæ orange-brown with black-edged white spots; patagia with orange-brown stripe edged by black, then white, their edges fuscous; thorax and pectus orange-brown; legs striped white and brown; abdomen orange-red, with prominent lateral series of wedge-shaped black-edged white spots, the ventral surface white with paired series of black-edged brown spots. Fore wing pale brown, thinly scaled, the veins black; a white point and orange-brown spot at base; an antemedial white line angled inwards on subcostal and outwards on median nervure and vein 1, and defined on each side by fuscous, broadly towards costa; an oblique sinuous medial white band; a slightly waved postmedial line incurved below vein 5; a lunulate subterminal line with fuscous mark on it below apex, and some whitish streaks on veins beyond it; a terminal black line and white points on veins. Hind wing pale semihyaline brownish; a terminal black line on apical half.

Hab. COLOMBIA; ECUADOR, Loja; BOLIVIA, R. Tanampaya, 1 ♂. *Exp.* 70 millim. Type in Coll. Dognin.

1461. *Amastus aconia*.

Phaeoptera aconia, Herr.-Schäff. Aussereur. Schmiett. f. 64 (1853);
Druce, Biol. Centr.-Am., Het. i. p. 95; Kirby, Cat. Het. p. 213.

Head and thorax white; palpi grey, the 1st joint fringed with orange hair; antennæ black; sides of frons, neck, extremity of tegulæ, and stripes on patagia and thorax orange; pectus orange; femora whitish, tibiæ and tarsi brown; abdomen orange, the ventral surface white, except claspers of male. Fore wing pale semihyaline brown, veins 1 to 7 and the submedian fold and fold in cell with dark streaks; a pale waved subterminal line. Hind wing semihyaline whitish, more thickly scaled towards margins.

Hab. COSTA RICA (*Van Paten, Underwood*), 2 ♂, 3 ♀, Godman-Salvin Coll.; COLOMBIA, Bogotá, 1 ♀; VENEZUELA; ECUADOR, Loja; PERU, Callanga. *Exp.* 94 millim.

1462. *Amastus persimilis*, n. sp. (Plate XXXIX. fig. 14.)

♀. Head and thorax orange-fulvous; palpi with the extremity of 2nd and the 3rd joints blackish; frons white; antennæ blackish, white above; tegulæ and shoulders with white band edged by black lines; patagia with grey-white edges; legs grey-white; abdomen orange, the ventral surface white. Fore wing pale reddish brown, thinly scaled, the veins blackish; the base obliquely grey-white; an indistinct pale curved subterminal line. Hind wing pale brownish semihyaline, rather more thickly scaled towards termen.

Hab. ECUADOR, Loja, 6000 feet, 1 ♀, type. *Exp.* 84 millim.

1463. *Amastus elongata*.

Lophocampa elongata, Feld. Reis. Nov. pl. 101. f. 5 (1874); Kirby, Cat. Het. p. 211.

Yellowish white; palpi, frons, antennæ, a stripe on vertex of thorax, and upperside of legs black; abdomen dorsally orange, a slight lateral black line. Fore wing with the costal edge black towards base; a broad antemedial pale brown band from below costa to inner margin, joined in submedian fold by an oblique narrower band from costa above end of cell; a slightly sinuous postmedial band with waved edges; a terminal band with irregularly waved inner edge. Hind wing with some brown suffusion on terminal area.

Hab. CAYENNE, type † in Coll. Rothschild; BRAZIL, Castro Paraña, 1 ♂. *Exp.* 64 millim.

1464. *Amastus ochraceator*. (Plate XXXIX. fig. 5.)

Halesidota ochraceator, Wlk. xxxi. 310 (1864); Druce, Biol. Centr.-Am., Het. i. p. 95; Kirby, Cat. Het. p. 213.

Head and thorax grey, antennæ black: 1st joint of palpi, sides of frons, neck, edge of tegulæ, and stripes on patagia and thorax

orange-fulvous; pectus fulvous; legs grey; abdomen orange-fulvous, the ventral surface grey. Fore wing pale purplish brown, thinly scaled; veins 1 to 6 and the fold in cell and submedian fold with dark streaks; the terminal area rather darker with a pale waved submedian line. Hind wing brownish semihyaline, more thickly scaled towards margins.

The form from Ecuador is darker.

Hab. MEXICO, Orizaba (*Botteri*), 1 ♀ type, Misantla (*Trujillo*), 1 ♀; GUATEMALA (*Champion*), 4 ♀, Godman-Salvin Coll.; ECUADOR, Loja; BOLIVIA, Chaco. *Exp.* 92 millim.

1465. *Amastus coprophora*.

Phagoptera coprophora, Herr.-Schäff. Aussereur. Schmett. f. 63 (1853); Kirby, Cat. Het. p. 213.

♂. Head, thorax, and abdomen fulvous yellow; palpi brown; antennæ black; frons, front of tegulæ, and edges of patagia pale brown; legs and ventral surface of abdomen pale brown. Fore wing pale red-brown, the inner area yellowish; the veins rather dark; a pale sinuous postmedial line. Hind wing semihyaline white, tinged with brownish ochreous towards termen.

Hab. VENEZUELA, 1 ♂ co-type. *Exp.* 70 millim. Type † in Coll. Staudinger.

1466. *Amastus alsa*. (Plate XXXIX. fig. 9.)

Phagoptera alsa, Druce, P. Z. S. 1890, p. 497; Kirby, Cat. Het. p. 207.

♀. Yellow-brown; antennæ with the shaft blackish. Fore wing thinly scaled and thickly irrorated with small black scales; a very indistinct pale curved subterminal line expanding into a very obscure spot on vein 5. Hind wing with the basal half semihyaline.

Hab. DOMINICA (*Angas*), type † ♀ in Coll. Druce. *Exp.* 58 millim.

*1467. *Amastus ? conspicua*.

Lophocampa conspicua, Maass. Stübel's Reisen S. Amer., Lep. p. 131, pl. 4. f. 31 (1890); Kirby, Cat. Het. p. 906.

♂. Ochreous brown, irrorated with dark scales. Fore wing semihyaline, except the costa, inner margin, and terminal area. Hind wing semihyaline, with a dark irrorated ochreous-brown apical patch narrowing from costa to a point at submedian fold.

Hab. PERU, Chacapoyas. *Exp.* 68 millim. This species is unknown to me.

*1468. *Amastus tumbilla*. (Plate XL. fig. 13.)

Phagoptera tumbilla, Dognin, Ann. Soc. Ent. Belge, xli. p. 25 (1897).

♂. Head and thorax chestnut-brown; upper part of frons orange; patagia with orange streak; abdomen darker, with the hair at base chestnut; a lateral series of orange points and some

orange hair in anal tuft. Fore wing pale red-brown, thinly scaled. Hind wing hyaline, very slightly tinged with brown.

Hab. ECUADOR, Loja, type ♂ in Coll. Dognin. *Exp.* 56 millim.

*1469. *Amastus hyalina*.

Phægoptera hyalina, Dognin, Le Nat. (2) iii. p. 14 (1889); id. Lép. Loja, p. 50, pl. 4. f. 9; Kirby, Cat. Het. pp. 213, 906.

♂. Head, thorax, and abdomen brownish white; palpi crimson at sides; antennæ yellow except at base; neck with crimson ring; tegulæ edged with orange; patagia with orange streaks; thorax crimson above; pectus with crimson patches and streaks in front; abdomen tinged with fuscous towards extremity. Fore wing hyaline, the veins yellowish, the inner margin whitish. Hind wing hyaline, the veins yellowish; the inner area sparsely clothed with whitish hair.

Hab. ECUADOR, Loja. *Exp.* 72 millim. Type † in Coll. Dognin.

Genus **HYALARCTIA**, nov.

Type, *H. sericea*.

Proboscis fully developed; palpi short, upturned; antennæ of male with short branches; tibiæ with the spurs short, the fore tibiæ with curved apical claw. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from below upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 3 from before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from towards end of cell, not reaching costa.

1470. *Hyalarctia sericea*.

Hyalarctia sericea, Schaus, A. M. N. H. (7) vii. p. 268 (1901).



Fig. 87.—*Hyalarctia sericea*, ♂. $\frac{1}{2}$.

Very pale yellow; palpi blackish with white bands; antennæ with the branches brownish; patagia with black points; fore coxæ orange with black patches; femora orange above, with black spots at extremity; fore tarsi banded with fuscous. Fore wing very pale semihyaline silky yellow, the veins darker; an orange point at base. Hind wing yellowish white.

Hab. BRAZIL, Castro Paraña (*Jones*), 1 ♂. *Exp.*, ♂ 42, ♀ 50 millim. Type † in Coll. Schaus.

Genus **PSYCHOPHASMA.**

Psychophasma, Butl. Trans. Ent. Soc. 1878, p. 51 Type.
erose.

Proboscis fully developed; palpi upturned, not reaching vertex of head, the 1st and 2nd joints broadly scaled, the 3rd naked; antennæ long, bipectinate in male with moderate branches, in female with very short branches; tibiæ with the spurs short; abdomen dorsally clothed with rough hair towards base. Fore wing with the costa arched towards apex which is produced and acute; the termen excised to vein 4, where it is strongly angled and produced to slight points at veins 6 and 3; vein 3 from well before angle of cell; 4, 5 from angle; 6, 7, 8, 9, 10 stalked, 6 from after 10 and strongly curved at base; 11 free. Hind wing with vein 3 from close to angle of cell; 4, 5 strongly stalked; 6, 7 shortly stalked; 8 from middle of cell.

1471. *Psychophasma erosa*.

Halesidota erosa, Herr.-Schäff. Aussereur. Schmett. f. 550 (1858); Druce, Biol. Centr.-Am., Het. i. p. 101; Kirby, Cat. Het. p. 194.

Halesidota albidator, Wlk. xxi. 313 (1864).

Halesidota vitripennis, Wlk. Char. Lep. Het. p. 12 (1869).

Head and thorax pale brownish grey; palpi and frons black, the former with orange patches at sides and white at extremities of



Fig. 88.—*Psychophasma erosa*, ♂. 1.

joints, the latter orange below; antennæ brown; vertex of head and tegulæ with pairs of black points; tegulæ and metathorax edged with white; coxæ with some fulvous hair, femora striped with black, tibiæ and tarsi black striped with white; abdomen dorsally fuscous with segmental whitish lines, the hair towards base brown, a lateral series of black spots, the ventral surface grey-brown. Fore wing brownish white, semihyaline except the marginal areas; basal and subbasal blackish marks on costa, the latter with two points below it; antemedial pairs of points on costa, subcostal and median nervures, and vein 1; a medial black patch on costa; two black streaks on inner area from middle to near termen; a pale brownish discoidal spot; postmedial and subterminal series of black points on the veins and a longer streak on vein 5; the terminal brownish band with crenulate inner edge with white marks on it, expanding at apex with some white streaks on it. Hind wing semihyaline whitish, the inner area clothed with brownish hair.

Hab. GUATEMALA (*Rodriguez*), 1 ♀; COSTA RICA (*Underwood*), 2 ♀; PANAMA, Chiriqui (*Ribbé*), 1 ♂, Godman-Salvin Coll.; ECUADOR, Sarayacu (*Buckley*), 4 ♂; BRAZIL, 1 ♂, type ♀ *vitripennis*, Amazons, R. Jurua (*Trail*), 1 ♂, Ega (*Bates*), type ♂ *albidator*. *Exp.*, ♂ 44, ♀ 48 millim.

Genus **THALESA.**

Thalesa, Schaus, Journ. N. York Ent. Soc. iv. p. 136 (1896) Type.
citrina.

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of male bipectinate with moderate branches, of female with short branches; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell, male with the inner margin much lobed. Hind wing with the cell long; vein 2 from long before angle; 3 and 5 from angle, 4 absent; 6, 7 from upper angle; 8 rarely present as a short spur not reaching costa.

1472. *Thalesa citrina*.

Phalæna citrina, Sepp, Ins. Surinam, pl. 53 (1848); Kirby, Cat. Het. p. 208.

Charidea seruba, Herr.-Schäff. Aussereur. Schmett. f. 280 (1855); Druce, Biol. Centr.-Am., Het. i. p. 93 (part.); Kirby, Cat. Het. p. 208.

♂. Yellow; head and thorax slightly marked with brown; legs with fuscous streaks; abdomen whitish below. Fore wing with



Fig. 89.—*Thalesa citrina*, ♂. 1.

numerous irregularly-waved fine brown lines; the ante-medial line defined on outer side by a brownish patch from costa to median nervure; an oblique, almost straight, medial line expanding at costa and with a silvery spot beyond it at lower angle of cell; a subterminal black

point above vein 5; the lobe of inner margin dark brown. Hind wing yellowish white.

♀ with fine brown line on inner margin.

Hab. PANAMA (*Champion*), 2 ♀, Godman-Salvin Coll.; AMAZONS, Rio Purus (*Trail*), 1 ♂, Pará (*Bates*), 1 ♀. *Exp.*, ♂ 30, ♀ 40 millim.

Larva. Reddish brown; head crimson with darker sutures; the first two somites with long white forwardly directed hair arising from pale tubercles; the other somites with dorsal and lateral brushes of pinkish and brown hair; some lateral yellow marks; the terminal somite with some long white hair directed backwards, and a pair of yellow brushes. *Cocoon* and *pupa* brown. Food-plant, *Inga vera*.

Genus **HALISIDOTA.**

	Type.
<i>Halisidota</i> , Hübn. Verz. p. 170 (1827)	<i>tessellaris</i> .
<i>Lophocampa</i> , Harr. Ins. Mass. p. 259 (1841)	<i>caryæ</i> .
<i>Euhalisidota</i> , Grote, Proc. Ent. Soc. Philad. v. p. 243 (1865)...	<i>atomosa</i> .
<i>Munona</i> , Schaus, P. Z. S. 1894, p. 233	<i>iridescens</i> .
<i>Schausia</i> , Dyar, Can. Ent. xxix. p. 212 (1897) (nec Karsch, Lep. 1895)	<i>argentata</i> .
<i>Euschausia</i> , Dyar, Can. Ent. xxx. p. 81 (1898)	<i>argentata</i> .

Proboscis well developed; palpi upturned and not reaching vertex of head,
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the 3rd joint minute; antennæ of male bipectinate, of female serrate and fasciculate; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing rather broad, with vein 3 from well before angle of cell; 4, 5 separate at origin; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell*. Hind wing with the cell long; vein 2 from long before angle; 3 from near angle; 4, 5 from angle, shortly stalked or separate; 6, 7 from upper angle; 8 usually present as a more or less developed spur, not, or rarely, reaching the costa.

SECT. I. Antennæ of male with long branches.

- | | |
|---|-----------------------|
| A. Abdomen black, with the base and extremity crimson... | <i>dukinfieldia</i> . |
| B. Abdomen crimson, banded with black | <i>notata</i> . |
| C. Abdomen without crimson bands or extremity. | |
| a. Fore wing with prominent series of white spots. | |
| a ¹ . Vertex of head brown..... | <i>andensis</i> . |
| b ¹ . Vertex of head whitish. | |
| a ² . Fore wing with the ground-colour dark. | |
| a ³ . Tegulæ with central brown spot | <i>argentata</i> . |
| b ³ . Tegulæ without central brown spot. | |
| a ⁴ . Fore wing with the ground-colour dark brown | <i>ingens</i> . |
| b ⁴ . Fore wing with the ground-colour blackish. | <i>alternata</i> . |
| b ² . Fore wing with the ground-colour yellow | <i>caryæ</i> . |
| b. Fore wing without prominent series of white spots. | |
| a ¹ . Fore wing with obscure series of large white spots | <i>bicolor</i> . |
| b ¹ . Fore wing without series of large white spots. | |
| a ² . Fore wing with the ground-colour bright yellow. | |
| a ³ . Fore wing with red-brown bands | <i>maculata</i> . |
| a ⁴ . Patagia with black points; fore wing with the apex not produced | <i>alsus</i> . |
| b ⁴ . Patagia without black points; fore wing with the apex produced and acute | <i>margona</i> . |
| b ² . Fore wing with the ground-colour dull ochreous yellow. | |
| a ³ . Abdomen suffused with crimson above | <i>rosetta</i> . |
| b ³ . Abdomen not tinged with crimson. | |
| a ⁴ . Fore wing without subterminal series of dentate spots | <i>atomosa</i> . |
| b ⁴ . Fore wing with subterminal series of dentate spots. | |
| a ⁵ . Fore wing with oblique series of dark marks from below apex to near base ... | <i>lurida</i> . |
| b ⁵ . Fore wing without oblique series of dark marks. | |
| a ⁶ . Hind wing with the inner and terminal areas slightly marked with fuscous. | |
| a ⁷ . Fore wing with the subterminal spots very strongly dentate | <i>perdentata</i> . |
| b ⁷ . Fore wing with the subterminal spots less strongly dentate | <i>sablona</i> . |
| b ⁶ . Hind wing with the terminal area suffused with fuscous; wings narrow. | <i>sthenia</i> . |

* In the males of one or two species vein 10 is rarely shortly stalked with 7, 8, 9.

- c*⁶. Hind wing with the inner and terminal areas almost entirely suffused with fuscous.
*a*⁷. Fore wing with the maculate bands obscure; ♂ 56 millim. *bactris*.
*b*⁷. Fore wing with the maculate bands clearer ochreous; ♂ 36 millim. ... *huaco*.
*d*⁶. Hind wing ochreous brown *scripta*.

1473. *Halisidota dukinfieldia*. (Plate XL. fig. 11.)

Pygoctenucha dukinfieldia, Schaus, J. N. York Ent. Soc. iv. p. 133 (1896).

♂. Head crimson; palpi with bands on 1st and 2nd joints and the 3rd joint black; antennæ black; thorax crimson above, lateral patches on tegulæ and the patagia black; pectus black with crimson patches in front; legs banded with crimson; abdomen with the last two segments crimson; sublateral white points on two sub-terminal segments; wings black with a bluish tinge.

Hab. BRAZIL, São Paulo, Castro Paraña, 1 ♂, 1 ♀. *Exp.* 56 millim. Type † in Coll. Schaus.

*1474. *Halisidota notata*.

Phægoptera notata, Schaus, P. Z. S. 1892, p. 281; id. Am. Lep. p. 12, pl. 3. f. 6.

Black-brown; crimson points behind antennæ; sides of tegulæ with pale yellow points, patagia with pale yellow patches; metathorax, neck, and fore and hind coxæ with crimson hairs, fore femora with crimson patches above; abdomen with the terminal segments dorsally banded with crimson, a sublateral series of pale yellow spots. Fore wing with antemedial, medial, and postmedial pale yellow spots on costa, a slight streak on inner margin near base, and a postmedial point. Hind wing whitish, the veins, costal, inner, and terminal areas suffused with black-brown; a triangular discoidal patch, the inner edge of the terminal band irregular.

Hab. BRAZIL, Petropolis, type † ♂ in Coll. Schaus. *Exp.* 58 millim.

*1475. *Halisidota andensis*. (Plate XL. fig. 10.)

Lophocampa andensis, Schaus, J. N. Y. Ent. Soc. iv. p. 138 (1896).

♂. Head and thorax red-brown mixed with ochreous brown; palpi white below, and orange at sides at extremity of 2nd joint, white marks above frons and behind antennæ; tegulæ edged with white, patagia with white patches; legs brown and white, fore femora orange at sides; abdomen brown, with slight orange dorsal bands on terminal segments, the ventral surface white with some brown marks. Fore wing dark brown, thickly irrorated with ochreous; some white marks at base; an antemedial maculate band acutely angled in cell; a medial series of spots slightly angled on median nervure, then oblique; a spot in end of cell and two points on discocellulars, with a spot on costa above them; postmedial and sub-

terminal series of spots, the former with the spots above veins 4 and 3 smaller and displaced outwards; a terminal series of points. Hind wing white, with some ochreous and brown spots on terminal two-thirds of costal area on underside.

♀. Abdomen brown and white; fore wing with hardly any ochreous irroration.

Hab. COLOMBIA, 1 ♂, 1 ♀, type† in Coll. Schaus. *Exp.*, ♂ 46, ♀ 52 millim.

1476. *Halisidota argentata*.

Halisidota argentata, Pack. Proc. Ent. Soc. Philad. iii. p. 129 (1864); Stretch, Zyg. & Bomb. N. Am. p. 135, pl. 6. f. 12; Kirby, Cat. Het. p. 208.

Head and thorax yellowish white, palpi brown except at tips; antennæ reddish brown, tegulæ with brown spots; patagia edged with brown, mesothorax with brown spots; legs banded with



Fig. 90.—*Halisidota argentata*, ♂. $\frac{1}{4}$.

brown; abdomen yellowish white, more orange on dorsum, some sublateral and ventral brown marks. Fore wing dark red-brown, slightly irrorated with white; some obliquely placed white points at base and a short fascia on inner margin; five yellowish spots on costa; two antemedial white spots in submedian interspace, with a point beyond them in cell and a medial spot below the cell; a triangular spot in end of cell, and small spots above and below base of vein 2 and slight marks on discocellulars; oblique postmedial and subterminal series of spots, the former having the spots above veins 4, 3, and inner margin smaller; a terminal series of small triangular yellowish-white spots. Hind wing yellowish white, with small brown discoidal spot and a spot often bifid at apex; the underside with medial and postmedial spots on costa; vein 8 represented by two spurs not reaching costa.

Hab. BRITISH COLUMBIA; U.S.A., Mountains of California, 1 ♂, Grote Coll. *Exp.*, ♂ 38, ♀ 60 millim.

Subsp. 1. *subalpina*, French, Can. Ent. xxii. p. 47 (1890); Kirby, Cat. Het. p. 209.

Thorax marked with redder brown; fore wing very thickly irrorated with ochreous white, which becomes the predominant colour towards costa and inner margin.

Hab. U.S.A., Rocky Mts., Colorado, 1 ♂.

Subsp. 2. *sobrina*, Stretch, Zyg. & Bomb. N. Am. p. 135, pl. 6. f. 10 (1872); Kirby, Cat. Het. p. 209.

Fore wing with the ground-colour uniform deep brown; the spots smaller.

Hab. U.S.A., California coast-region.

1477. *Halisidota ingens*. (Plate XL. fig. 12.)

Halisidota ingens, H. Edw. Papilio, i. p. 39 (1881); Kirby, Cat. Het. p. 209.

Halisidota scapularis, Stretch, Ent. Am. i. p. 106 (1885); Kirby, Cat. Het. p. 209.

Head, tegulæ, and patagia white; palpi and frons brown; antennæ fulvous; tegulæ with brown marks in front, patagia with brown band in front and small spot at middle; thorax orange and brown; pectus and legs white, the latter banded with brown; abdomen orange-yellow above, white below, with sublateral and ventral series of brown spots. Fore wing dark brown; some white points at base and a short orange and white fascia on inner margin; four yellowish-white spots on costa; two conjoined white antemedial spots below the cell, with a spot beyond them in cell and another below it; a somewhat quadrate spot in end of cell, a point above base of vein 2 and spot below it; oblique postmedial and subterminal series of spots, the former with the spots above veins 4 and 5 wanting or replaced by points; a terminal series of spots. Hind wing white, the inner area yellowish; some subapical spots and some on costal area on underside varying much in extent.

Hab. U.S.A., Rocky Mts., Colorado, 1 ♂, N. Mexico. *Exp.*, ♂ 54, ♀ 62 millim.

*1478. *Halisidota alternata*.

Euhalisidota alternata, Grote, Proc. Ent. Soc. Philad. vi. p. 318, pl. 5. f. 10 (1867); Kirby, Cat. Het. p. 209.

Phægoptera albiguttata, Boisd. Léop. Guat. p. 99 (1870); Druce, Biol. Centr.-Am., Het. i. p. 93, pl. 9. f. 27 (1884); Kirby, Cat. Het. p. 209.

♂. Head and thorax black and white evenly mixed; antennæ fulvous; legs white, banded with black, the femora orange on inner side; abdomen ochreous, suffused with fuscous, especially towards base of dorsum and on underside. Fore wing black, irrorated with white; some white marks at base; an antemedial series of three spots with a spot just beyond them in cell; a medial series of four spots with some marks beyond it in cell and towards costa, followed by another series of five spots; two discoidal points; a postmedial series of irregular spots, those above veins 4 and 5 smaller and displaced outwards; a subterminal series of spots and a terminal series of smaller spots. Hind wing white tinged with fuscous, especially on inner area; a discoidal spot and more or less developed patch at apex; a spur from subcostal nervure before vein 8.

♀. Hind wing with fuscous patches in cell and subterminal series of irregular spots.

Hab. CUBA; MEXICO, Jalapa, Las Vegas, Coll. Schaus; HONDURAS. *Exp.*, ♂ 48, ♀ 60 millim.

1479. *Halisidota caryæ*.

Lophocampa caryæ, Harr. Ins. Mass. p. 258 (1841); Stretch, Zyg. & Bomb. N. Am. p. 140, pl. 6. f. 11; Kirby, Cat. Het. p. 208.

Halisidota annulifascia, Wlk. iii. 734 (1855).

Phegoptera porphyrea, Herr.-Schäff. Aussereur. Schmett. f. 283 (1855).

Yellow; 2nd joint of palpi above, a band across frons, and antennæ rufous; patagia edged with rufous; tibiæ and tarsi banded with rufous. Fore wing irrorated and suffused with rufous; the veins streaked with rufous; a rufous line from base of costa running obliquely to vein 1, then up to middle of submedian interspace and to inner margin before middle, enclosing a clear yellow patch; an oblique series of antemedial yellow spots from costa to below median nervure, with a point below them and one on median nervure nearer the base; an oblique rufous line from costa before middle, towards which it expands, along vein 2 to termen, with three spots on its outer edge between costa and cell; two white spots in end of cell and two points on discocellulars; oblique postmedial and subterminal series of irregular spots, the former series with the spot beyond the cell large, the latter with the spot above vein 5 displaced inwards; an oblique streak from costa along vein 6 to termen; termen and inner margin brown; some white points on cilia. Hind wing semihyaline yellow, tinged with orange on inner area; veins 4, 5 from cell, 8 a spur.

Hab. U.S.A. (*Doubleday*), type *annulifascia*, Grote & Zeller Colls. *Exp.*, ♂ 48, ♀ 58 millim.

Subsp. 1. *propinqua*, H. Edw. Papilio, iv. p. 76 (1884); Druce, Biol. Centr.-Am., Het. i. p. 94, ii. p. 374; Kirby, Cat. Het. p. 208.

Antennæ darker; fore wing more irrorated and less suffused with rufous, the streaks from costa along veins 2 and 6 very prominent.

Hab. MEXICO, Jalapa (*Trujillo*); GUATEMALA (*Rodriguez, Champion*); COSTA RICA (*Underwood*), Godman-Salvin Coll.

Larva. O. G. Soule, Psyche, vi. p. 158.

Mature: Head, legs, and ventral surface black; somites greenish white, speckled with black, the 2nd and 3rd somites with two subdorsal black warts and one on stigmatic line; 4th to 10th somites with pencils of long black hair meeting dorsally and the 4th and 10th somites with lateral pencils; some long hair overhanging head and some long white hair on sides. Food-plant, Hickory.

Cocoon formed by a slight silken net with the long hairs laid on it longitudinally and the short hair pushed through it and erect.

Subsp. 2. *mixta*, Neum. Papilio, ii. p. 133 (1882).

Fore wing with the spots yellowish, concolorous, defined by

brown; the ground-colour of wing thickly irrorated with brown; the oblique streaks on veins 2 and 6 not prominent.

Hab. U.S.A., Arizona.

1480. *Halisidota bicolor*. (Plate XL. fig. 4.)

Halisidota bicolor, Wlk. iii. 734 (1855); Druce, Biol. Centr.-Am., Het. i. p. 93; Kirby, Cat. Het. p. 208.

Euhalisidota pura, Neum. Papilio, ii. p. 133 (1882); Kirby, Cat. Het. p. 209.

Pale ochreous yellow. Fore wing with oblique silvery-white patch at base; two antemedial and a medial series of silvery-white spots, the 1st strongly bent inwards to costa, the two latter slightly; obliquely placed postmedial spots below costa and above vein 5, followed by an oblique series of small lunules from just beyond them; a subterminal series of small lunules; the apex produced and acute. Hind wing semihyaline yellowish white.

Hab. U.S.A., Arizona; MEXICO, 1 ♂, type (*Hoege*), 1 ♀, Godman-Salvin Coll. *Exp.*, ♂ 44, ♀ 58 millim.

1481. *Halisidota maculata*.

Lophocampa maculata, Harr. Ins. Mass. p. 259 (1841); Kirby, Cat. Het. p. 208.

Halisidota fulvoflava, Wlk. iii. 733 (1855).

Phegoptera guttifera, Herr.-Schäff. Aussereur. Schmett. f. 284 (1855).

Primrose-yellow; vertex of head with brown stripe; patagia edged with brown above. Fore wing with red-brown basal spot from costa to median nervure; an antemedial waved band angled on median nervure, conjoined below the cell and often in cell to a medial band angled inwards in cell and outwards above vein 1; a postmedial irregular oblique band bent outwards at vein 5, angled on vein 2, then confluent with the medial band; a subterminal band with minutely dentate inner edge and strongly dentate outer edge, with a series of spots, usually large, in the interspaces beyond it. Hind wing pale yellow.

Hab. NOVA SCOTIA, 1 ♀, type *fulvoflava*; ATLANTIC STATES, 2 ♂, 1 ♀, Massachusetts, Beverly, 1 ♀, Grote Coll. *Exp.*, ♂ 46, ♀ 54 millim.

Larva. Pack. Ann. N. Y. Acad. Sci. viii. p. 67; Dyar, J. N. Y. Ent. Soc. v. p. 132; and Psyche, vi. p. 165.

Stage 2. Head black; body straw-yellow; thoracic shield black, angulate at sides behind; tubercles large with numerous spinose hairs; the 1st abdominal somite with large transverse oval black spot with a piliferous tubercle on it, and another lateral on same somite bearing tufts of black hair; 6th somite with similar large black double wart, and another dorsal on 7th somite with double tuft from it; abdominal somites 2-7 with five black lunate lateral warts, and on each of these somites four dark greenish dorsal warts

arranged in a trapezoid; hairs in general pale yellowish; legs blackish.

Stage 3. Body entirely concealed by hair arranged in dense bunches of unequal length, a few long white hairs from 1st and 3rd somites, the other hairs straw-yellow, except a series of eight double median dorsal black tufts, the first and last much larger; a pair of lateral thick black tufts on somites 4 and 11, the tubercles from which they arise being surrounded with black, a broad black lateral interrupted band connecting these patches.

Mature: Body blackish, densely covered with deep lemon-yellow hairs, longer on the sides; head black, clypeus and antennæ whitish, the head with sparse unequal black hair; abdominal somites with a series of eight double dorsal black tufts, the 1st higher and narrower, the 7th shorter and wider; somites 4 and 10 with lateral black tufts; thoracic somites with six long slender white tufts, 7th and 8th somites with three pairs of similar whitish tufts. Food-plant, Poplar, Maple, &c.

Cocoon thin, of silk and hair, velvety.

Pupa. Thorax and abdomen enlarged centrally, with a depression between them; ventral side straight, flattened; ends obtuse; abdominal segments fixed; cremaster of spiny hair.

Subsp. 1. *angulifera*, Wlk. Lord's Nat. in Vancouv. ii. p. 335 (1866); Kirby, Cat. Het. p. 208.

Halesidota alni, H. Edw. P. Calif. Acad. vii. p. 129 (1877).

Imago similar.

Larva. Dyar, Psyche, vi. p. 323.

Young: With tufts of red, instead of black, hair.

Mature: Head black; bases of antennæ, labium, and a line below clypeus yellow; body black, mottled with yellowish; warts with spreading tufts of feathery hair, on somites 1-5 and 9-12 deep black, on somites 6-8 orange-ochreous, the black parts with long slender white pencils on somites 2, 3 from warts ii.-v., on somite 4 from warts i.-v., on somite 5 single hairs from warts iii., iv., on somite 9 single hairs from warts ii.-iv., on somite 10 from warts ii., iii., v., on somite 11 from warts i., ii., on somite 12 from the large and lateral warts. Food-plants, *Salix* and *Alnus*.

Hab. BRITISH COLUMBIA (Lord), 1 ♂ type, Fraser R. (*St. John*), 1 ♂; VANCOUVER I. (*Danby, J. J. Walker*), 4 ♂, 4 ♀; CALIFORNIA, Sierra Nevada.

Subsp. 2. *agassizi*, Pack. Proc. Ent. Soc. Phil. iii. p. 128 (1864); Kirby, Cat. Het. p. 207.

Halesidota californica, Wlk. xxxi. 311 (1864).

Phegoptera salicis, Boisd. Ann. Soc. Ent. Belge, xii. p. 81 (1869).

Colour rather deeper; the markings suffused by the ground-colour, often more or less obsolescent, but leaving a dark discoidal spot.

Hab. CALIFORNIA coast-region, 2 ♂, 2 ♀, type, Grote Coll. 1 ♂.

1482. *Halisidota alsus*.

Bombyx alsus, Cram. Pap. Exot. ii. pl. 113. E (1775); Kirby, Cat. Het. p. 208.

Halisidota pectina, Schaus, J. N. Y. Ent. Soc. iv. p. 139 (1896); Druce, Biol. Centr.-Am., Het. ii. p. 373.

Ochreous; tegulae and patagia with black points; tibiae and tarsi with black bands. Fore wing with outwardly oblique dentate fuscous subbasal line; two antemedial lines bent inwards and with some fuscous between them towards costa, with another line not bent inwards towards costa and meeting the subbasal line at inner margin; an oblique dentate medial line; a more or less obscure oblique dentate fuscous postmedial band, with small triangular white spot on it at lower angle of cell; two fine dentate postmedial lines and two subterminal lines forming somewhat stellate spots, with some dark points on termen; a rufous fascia on inner margin. Hind wing semihyaline yellowish white.

Hab. MEXICO, Jalapa (*Hoega*), 1 ♂, Coatepec (*Brooks*), 1 ♀, Orizaba; GUATEMALA (*Champion*), 1 ♂; COLOMBIA, Bogotá, 2 ♂; VENEZUELA, 3 ♀. *Exp.*, ♂ 48, ♀ 52 millim.

*1483. *Halisidota margona*. (Plate XL. fig. 5.)

Halisidota margona, Schaus, J. N. Y. Ent. Soc. iv. p. 139 (1896).

♀. Fulvous yellow. Fore wing with the inner margin dark brown from the slight angle before middle to tornus; slight groups of dark scales on basal, costal, and terminal areas; an antemedial series of dentate spots defined by brownish lines; a greyish discoidal spot; an oblique brownish line from lower angle of cell to inner margin; an oblique postmedial series of obscure dentate spots, the one above vein 5 produced inwards to discocellulars, and the spots below it resting on the postmedial line; an obscure dentate band beyond it from vein 5 to inner margin, followed by a subterminal series of somewhat V-shaped spots. Hind wing pale semihyaline yellow.

Hab. MEXICO, Jalapa, type ♀ in Coll. Schaus. *Exp.* 58 millim.

1484. *Halisidota rosetta*. (Plate XL. fig. 8.)

Halisidota rosetta, Schaus, J. N. Y. Ent. Soc. iv. p. 139 (1896).

♂. Ochreous; head and front part of thorax suffused with brown; legs striped with brown, the femora crimson above; abdomen dorsally crimson except at base and extremity. Fore wing irrorated with brown scales; the median nervure and base of veins 3, 4, 5 streaked with brown; traces of a postmedial and a more distinct subterminal series of brown lunules. Hind wing yellowish white.

Hab. BRAZIL, São Paulo (*Jones*), 3 ♂. *Exp.* 46 millim. Type ♀ in Coll. Schaus.

1485. *Halisidota atomosa*.

Halisidota atomosa, Wlk. iii. 746 (1855); Kirby, Cat. Het. p. 207.

Euhalisidota luxa, Grote, Proc. Ent. Soc. Philad. v. p. 244, pl. 4. f. 5 (1865); Kirby, Cat. Het. p. 209.

Euhalisidota fasciata, Grote, Proc. Ent. Soc. Philad. vi. p. 315, pl. 5. ff. 7, 8 (1867); Kirby, Cat. Het. p. 209.

Halisidota mendax, Möschl. Abhandl. Senck. Ges. xiv. p. 34 (1886); Kirby Cat. Het. p. 208.

Bright ochreous; palpi with black patch on sides of 2nd joint; tegulæ with black points; abdomen dorsally tinged with orange. Fore wing irrorated with groups of black scales, some of them forming traces of dentate antemedial, postmedial, and subterminal lines.

Hab. JAMAICA, 1 ♀ type, ♂ in Coll. Schaus; CUBA. *Exp.*, ♂ 36, ♀ 42 millim. Type † *mendax* in Coll. Staudinger.

1486. *Halisidota lurida*. (Plate XL. fig. 19.)

Halisidota lurida, H. Edw. Ent. Am. iii. p. 91 (1887); Kirby, Cat. Het. p. 209.

Ochreous; abdomen dorsally tinged with brown. Fore wing slightly irrorated with brown; some slight dentate dark marks in the interspaces below costa beyond middle; an oblique series of obscure dentate marks from apex to vein 1 near base; a subterminal series of long dentate marks; the apex very produced and acute. Hind wing with the inner area brown.

Hab. MEXICO, Vera Cruz, Jalapa (*Trujillo*), 2 ♀, Godman-Salvin Coll., Las Vegas; COLOMBIA. *Exp.* 64 millim.

*1487. *Halisidota perdentata*. (Plate XL. fig. 7.)

Halisidota perdentata, Schaus, A. M. N. H. (7) vii. p. 266 (1901).

♂. Ochreous. Fore wing irrorated with brown scales, some forming traces of an antemedial dentate line, a small annulus below the cell near base, and a dentate mark in end of cell; postmedial and subterminal oblique series of irregular very dentate lunules, the latter with series of small annuli on their outer edges. Hind wing slightly tinged with brown below vein 2 and with traces of irregular subterminal line.

♀ with large thick whitish anal tuft; wings with the markings rather more distinct.

Hab. MEXICO, Orizaba, type † in Coll. Schaus. *Exp.*, ♂ 42, ♀ 56 millim.

*1488. *Halisidota sablona*. (Plate XL. fig. 3.)

Euhalisidota sablona, Schaus, J. N. Y. Ent. Soc. iv. p. 140 (1896).

♀. Pale ochreous brown. Fore wing irrorated with black; traces of an antemedial ochreous band, of a medial band from costa to

median nervure, and of postmedial and subterminal series of dentate spots. Hind wing ochreous, with irregular fuscous markings on terminal area.

♂. Fore wing less irrorated with black; hind wing with dark suffusion on inner half of wing.

Hab. BRAZIL, Castro Paraña, 1 ♀ type † in Coll. Schaus. *Exp.*, ♂ 54, ♀ 62 millim.

1489. *Halisidota sthenia*, n. sp. (Plate XL. fig. 6.)

♂. Brownish ochreous; palpi brown at sides; branches of antennæ brown; abdomen dark brown on dorsum. Fore wing suffused with brown; some black points near base; an antemedial clearer ochreous band edged by black points oblique from costa to median nervure, where it is angled and obsolete below submedian fold; a similar obscure medial band angled at lower angle of cell, where there is a black point, and extending to inner margin; postmedial and subterminal series of obscure dark-edged dentate spots; a blackish terminal line. Hind wing pale ochreous; the terminal area fuscous.

Wings narrow; hind wing with veins 4, 5 on a long stalk; 6, 7 shortly stalked.

Hab. BOLIVIA, Rio Songo (*Garlepp*), 1 ♂ type. *Exp.* 36 millim.

1490. *Halisidota bactris*.

Noctua bactris, Sepp, Surinam Vlind. ii. p. 223, pl. 100 (1848); Kirby, Cat. Het. p. 210.

Halisidota falacra, Dognin, Bull. Soc. Ent. Fr. lx. p. clxxv (1891); id. Lép. Loja, pl. 8. f. 15; Kirby, Cat. Het. p. 906.

♂. Ochreous, tinged with brown; palpi blackish at sides; abdomen dorsally fuscous. Fore wing irrorated with brown; some ill-defined ochreous marks outlined with brown below costa, in end of cell, and below the cell; an oblique series of obscure lunulate marks beyond the cell, and a subterminal series of long bidentate lunulate marks. Hind wing fuscous, with the costal half ochreous; some slight dark marks on termen at apex. Fore wing with vein 10 sometimes shortly stalked with 7, 8, 9.

Hab. SURINAM; ECUADOR, Loja, type † ♂ *falacra* in Coll. Dognin; PERU; BOLIVIA, R. Songo, 1 ♂, R. Tanampaya. *Exp.*, ♂ 56, ♀ 62 millim.

Larva. Black; hair short, black; some long black hairs on anterior and posterior somites, which have also thin pencils of ochreous hair directed forwards and backwards; prolegs orange. Food-plant, *Bactris acanthocarpa*.

1491. *Halisidota huaco*. (Plate XL. fig. 20.)

Halisidota huaco, Schaus, A. M. N. H. (7) vii. p. 266 (1901).

Pale ochreous; palpi and frons fuscous brown; thorax tinged with brown; abdomen dorsally fuscous brown. Fore wing irrorated

with fuscous brown; traces of a minutely dentate antemedial line angled on median nervure and with a patch of brownish-fuscous suffusion beyond it on inner area; a black spot at lower angle of cell; traces of an oblique dentate postmedial line with fuscous suffusion beyond it to the indistinct strongly dentate subterminal line; a series of dentate dark-edged marks on termen. Hind wing with the terminal area suffused with fuscous brown, diffused to base in submedian fold; some dentate ochreous marks on termen.

Hab. BRAZIL, Rio Janeiro, Castro Paraña, 1 ♂, type† in Coll. Schaus. *Exp.*, ♂ 36, ♀ 40 millim.

*1492. *Halisidota scripta*.

Euhalisidota scripta, Grote, Proc. Ent. Soc. Philad. vi. p. 317, pl. v. f. 9 (1867); Kirby, Cat. Het. p. 209.

♀. Ochreous; palpi with slight dark streak on 2nd joint at sides, tegulæ and patagia with fuscous annuli; legs ringed with brown; abdomen fulvous yellow on dorsum. Fore wing with double irregularly dentate fuscous subbasal, antemedial, medial, postmedial, and subterminal lines, filled in with brownish ochreous; the dentition of the antemedial and medial lines anastomosing in and below cell on median nervure, vein 1, and above inner margin; the postmedial line very irregularly dilated from costa to lower angle of cell, the subterminal bent inwards above vein 1; a series of very irregular dentate fuscous-edged spots just before termen and a series of spots on cilia. Hind wing ochreous brown.

Hab. CUBA, Coll. Staudinger. *Exp.* 52 millim.

SECT. II. Antennæ of male with short branches.

A. Fore wing of male with a patch of rough androconia covering the whole cell on underside, except lower extremity.

1493. *Halisidota sobrina*.

Halisidota sobrina, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 668, pl. 9. f. 32 (1877).

Halisidota laroipa, Druce, P. Z. S. 1893, p. 288; id. Biol. Centr.-Am., Het. ii. p. 373.

Lophocampa modesta, Kirby, Cat. Het. p. 208.



Fig. 91.—*Halisidota sobrina*, ♂. 1.

Ochreous; palpi with black spot at side of 2nd joint; tegulæ, patagia, tibiæ, and tarsi spotted with black. Fore wing with fine

double minutely dentate subbasal, antemedial, medial, and post-medial dark lines, the last bent outwards to inner margin; dark patches on costal area on antemedial line and at end of cell, and often on middle of inner margin; an irregularly dentate sub-terminal line angled inwards above vein 5, where there is often a black spot on it; a crenulate terminal line. Hind wing pale ochreous.

Hab. COSTA RICA (Zürcher), 1 ♀; PANAMA, Bugaba, Chiriqui (*Champion*), 3 ♂, Godman-Salvin Coll.; SURINAM, type ♂ in Coll. Staudinger; ECUADOR, Chiguinda (*Buckley*), 4 ♂; BOLIVIA, Suapi; PERU, Chanchamayo, Sarayacu, type *laroipa* ♂ in Coll. Druce. *Exp.*, ♂ 36-40, ♀ 46 millim.

B. Hind wing of male with the inner area dilated, lobed, and clothed with rough scales above; abdomen with lateral tufts of long hair from 1st segment.

1494. *Halisidota eudolobata*, n. sp.

Ochreous; head and thorax tinged with brown; abdomen yellow. Fore wing with about ten waved brown lines forming lunulate spots on postmedial area and somewhat diamond-shaped sub-



Fig. 92.—*Halisidota eudolobata*, ♂. $\frac{1}{2}$.

terminal spots; a large clouded discoidal spot. Hind wing pale semihyaline yellow.

Hab. AMAZONS, Olivencas (*Michelli*), 1 ♀ type, Pebas, type ♂ in Coll. Staudinger. *Exp.* 40 millim.

C. Wings of male normal.

a. Fore wing with medial band defined by black lines.

a¹. Fore wing with the ground-colour black-brown in male, brown in female *atra*.

b¹. Fore wing with the ground-colour ochreous or brownish ochreous.

a². Fore wing with terminal band.

a³. Fore wing with the discoidal band conjoined at costa to the medial band, forming a V-shaped mark *interlineata*.

b³. Fore wing with the discoidal band separate from the medial band.

a⁴. Fore wing with black streaks on the basal patches *cinctipes*.

b⁴. Fore wing without black streaks on the basal patches *tessellaris*.

b². Fore wing without terminal band *masoni*.

- b. Fore wing without black-edged medial band.
 a^1 . Fore wing with bands formed of lunulate spots.
 a^2 . Abdomen tinged with crimson; fore wing with crimson points on the spots *cyclozonata*.
 b^2 . Abdomen not tinged with crimson; fore wing without crimson points.
 a^3 . Fore wing with diffused fascia from below apex to or to near base.
 a^4 . Fore wing with the fascia blackish *lineata*.
 b^4 . Fore wing with the fascia brown.
 a^5 . Fore wing orange-yellow *quanta*.
 b^5 . Fore wing ochreous yellow *oruba*.
 b^3 . Fore wing with oblique fascia from below apex to lower angle of cell broken up into spots.
 a^4 . Hind wing fuscous brown.
 a^5 . Fore wing fuscous brown *umbrosa*.
 b^5 . Fore wing ochreous, strongly suffused with brown *cedon*.
 b^4 . Hind wing ochreous whitish.
 a^5 . Fore wing with black spot at lower angle of cell.
 a^6 . Fore wing orange-yellow *pulverea*.
 b^6 . Fore wing ochreous yellow *coniota*.
 b^5 . Fore wing without black spot at lower angle of cell.
 a^6 . Fore wing with the series of spots obscure. *longa*.
 b^6 . Fore wing with well-defined series of strongly dentate spots.
 a^7 . Average expanse 50 millim. *rhomboidea*.
 b^7 . Average expanse 35 millim. *polydonta*.
 c^3 . Fore wing without oblique fascia from below apex.
 a^4 . Fore wing with numerous prominent black spots *atrimaculata*.
 b^4 . Fore wing with prominent, usually annulate, black spot at lower angle of cell *leucanina*.
 c^4 . Fore wing without black spots.
 a^5 . Fore wing with dark streak in discal fold ... *squalida*.
 b^5 . Fore wing without dark streak in discal fold.
 a^6 . Fore wing with three fine sinuous post-medial lines *ochracea*.
 b^6 . Fore wing without sinuous postmedial lines.
 a^7 . Fore wing without oblique medial line. *acuta*.
 b^7 . Fore wing with oblique medial line.
 a^8 . Fore wing with pale point in lower angle of cell beyond the oblique medial line *annulosa*.
 b^8 . Fore wing without pale point in lower angle of cell, the medial line slightly angled outwards at lower angle ... *catenulata*.
 b^1 . Fore wing without bands formed of lunulate spots.
 a^2 . Fore wing with medial and postmedial brownish bands, reduced in male to spots on the margins ... *labaca*.
 b^2 . Fore wing with narrow medial band conjoined at lower angle of cell to an irregular broken post-medial band, ground-colour white *melaleuca*.
 c^2 . Fore wing with diffused brownish medial and post-medial bands *brunneitincta*.
 d^2 . Fore wing with diffused red medial and postmedial bands *rusca*.
 e^2 . Fore wing with obscure postmedial series of spots, with streaks arising from them *interstriata*.

- f*². Fore wing with obscure maculate subterminal band.
*a*³. Abdomen brown *leria*.
*b*³. Abdomen orange-yellow *leda*.
*g*². Fore wing without transverse markings.
*a*³. Abdomen without black patch; fore wing with the veins not streaked with black.
*a*⁴. Fore wing crimson, suffused with brown *rhoda*.
*b*⁴. Fore wing not crimson.
*a*⁵. Vertex of head with black point.
*a*⁶. Frons with black point *pallida*.
*b*⁶. Frons without black point *arenacea*.
*b*⁵. Vertex of head without black point.
*a*⁶. Fore wing brown *ordinaria*.
*b*⁶. Fore wing yellowish, the veins streaked with ochreous *iridescent*.
*b*³. Abdomen with the four medial segments black; fore wing with the veins streaked with black.
*a*⁴. Tegulæ not tipped with black *humosa*.
*b*⁴. Tegulæ tipped with black *triphylla*.

1495. *Halisidota atra*.

Halisidota atra, Druce, Biol. Centr.-Am., Het. i. p. 92, pl. 9. f. 26 (1884); Kirby, Cat. Het. p. 210.

♂. Brown, suffused with dark fuscous; palpi and legs orange-brown, banded with black. Fore wing with the costal area rather paler; elongate black-edged vittæ below base of costa and on median nervure; a triangular black-edged mark below base of cell bisected longitudinally by a black line; a medial black-edged band slightly angled outwards on the veins and inwards below the cell and crossed by fine black streaks below costa and on veins; a discoidal dark brown black-edged reniform mark, its centre outlined with black and connected with costa by a black-edged band crossed by fine streaks; annulate spots on costa before apex and sometimes also at apex and above vein 4, and a triangular mark on inner margin before tornus; veins 4, 5 stalked, 8 a spur.

♀. Much less suffused with fuscous; tegulæ and patagia outlined with greenish; abdomen brownish yellow.

Hab. GUATEMALA (*Champion*), 2 ♂, 1 ♀ type, Godman-Salvin Coll. *Exp.*, ♂ 50, ♀ 52 millim.

1496. *Halisidota interlineata*.

Halisidota interlineata, Wlk. iii. 739 (1855); Druce, Biol. Centr.-Am., Het. ii. p. 371; Kirby, Cat. Het. p. 208.

Phegoptera jucunda, Herr.-Schäff. Aussereur. Schmett. f. 285 (1855).

Pale fawn; palpi black, with an orange band; frons and antennæ black; tegulæ and patagia outlined with greenish; legs orange, with grey patches on black bands; abdomen orange, with lateral series of black spots, the ventral surface white. Fore wing with two black-edged marks, centred with fulvous and black on basal part of costa, sometimes conjoined and connected by a black-edged streak on median nervure, below which is a triangular black-edged mark longitudinally bisected by a black line; a black-edged fulvous

V-shaped mark on costa just beyond middle, crossed by fine streaks below costa, and with black discocellular patch on it sometimes with pale centre; from the inner arm of the V at subcostal nervure is a black-edged band somewhat sinuous and crossed by black streaks on the veins; a black-edged annulus on costa before apex and another on inner margin; a terminal series of fawn-coloured marks with fine black line on their inner side like a series of steps. Hind wing semihyaline, the inner area clothed with orange hair; veins 4, 5 stalked or from cell, 8 a spur.

Ab. 1. Fore wing with a more or less complete series of irregular fawn-coloured black-edged subterminal marks between the annuli on costa and inner margin.

Hab. COSTA RICA (*Underwood*), 1 ♂, Godman-Salvin Coll.; BRAZIL, 4 ♂, 1 ♀ type. *Eap.* 50–52 millim. Type † *jucunda* in Coll. Staudinger.

1497. *Halisidota cinctipes*. (Plate XL. fig. 15.)

Halisidota cinctipes, Grote, Proc. Ent. Soc. Philad. v. p. 242 (1865); Druce, Biol. Centr.-Am., Het. i. p. 92; Kirby, Cat. Het. p. 210.

Halisidota davisii, H.-Edw. Proc. Calif. Acad. v. p. 365 (1875); Kirby, Cat. Het. p. 210.

Pale fawn; palpi orange, with black bands with grey patches on them, lower part of frons almost always black; vertex of head greenish; antennæ fuscous, the base orange; tegulæ and patagia edged with blue-green; legs orange and fawn, with annulate grey-centred black marks; abdomen orange, with series of lateral black points on terminal segments, the ventral surface pale. Fore wing with two orange patches on basal part of costa, edged and streaked with black and connected by a black-edged streak on median nervure, below which is a triangular mark longitudinally bisected by a fine black streak; a sinuous black-edged medial band, orange below costa, and crossed by fine black streaks below costa and on veins; a U-shaped black-edged orange discocellular mark, sometimes conjoined to the triangular black-streaked mark on costa above it; a subterminal black-edged patch on inner margin, and an oblique irregular band from costa, where it is orange, to vein 3, where it is more or less conjoined to the terminal band which is in the form of an irregular series of steps. Hind wing semihyaline, the veins, termen, and inner area tinged with orange; veins 4, 5 from cell or stalked, 8 a spur.

Ab. 1. With the subterminal band complete and sometimes separate from the terminal band.

Ab. 2. With the subterminal band interrupted above vein 5 as well as below 4.

Ab. 3. With the medial band conjoined to the costal patch above the V-shaped mark.—Venezuela.

Hab. FLORIDA; MEXICO, Jalapa (*Hoega, Trujillo*), Coatepec (*Brooks*), Yucatan (*Gaumer*); GUATEMALA (*Champion, Rodriguez*);

COSTA RICA (*Underwood*), Godman-Salvin Coll.; PANAMA, Chiriqui; CUBA; HAITI (*Tweedie*); ST. LUCIA; VENEZUELA, 1 ♀, Merida; BRAZIL, Rio Grande do Sul; PERU, Chanchamayo (*J. J. Walker*).
Exp. 50–62 millim.

Larva, Dyar, *Psyche*, vi. p. 550.

Mature: Head red-brown, paler on sutures, lines above mouth and base of antennæ white; somites with the hair thick, pale chocolate or grey-brown with whitish tinge at sides, crested and darker along dorsal line; the skin exposed and orange between somites 3 and 4; the three upper warts on somites 3 and 4 whitish with black patches; white hair-pencils from 1st and 3rd warts on somite 4 and a few long whitish hairs from the same warts on somite 3; a white pencil from 3rd wart on somite 12; skin red-brown, more or less spotted with black, or all black except the legs; spiracles white; somite 2 retracted, its hair bent forward over head; hairs all finely barbed; thoracic somites with 4 warts, abdominal with 6, wart 4 being smaller.

Length 30 millim. Food-plants, *Coccoloba floridana* and *wifera*.
Cocoon firm, compact, formed of the larval hairs.

1498. *Halisidota tessellaris*.

Halisidota tessellaris, Abbot & Smith, *Lep. Georgia*, ii. pl. 75 (1797); Geyer, *Zutr. Ex. Schm.* v. p. 34, ff. 939, 940; Druce, *Biol. Centr.-Am.*, *Het.* i. p. 92; Kirby, *Cat. Het.* p. 210.

Halisidota antiphola, Walsh, *Proc. Bost. Soc. N. H.* ix. p. 238 (1864).

Halisidota harrisii, Walsh, *Proc. Ent. Soc. Philad.* iii. p. 430 (1864).



Fig. 93.—*Halisidota tessellaris*, ♂. $\frac{1}{2}$.

Pale ochreous; palpi, antennæ, and legs orange; tarsal joints sometimes slightly ringed with black; abdomen pale orange fulvous above, whitish below. Fore wing with slight black-edged spot on base of costa, another before middle, and a larger spot below base of cell; a medial band angled outwards on subcostal and median nervures and inwards in cell; a rather V-shaped discoidal mark with spot above it on costa; a subterminal series of irregular black-edged marks and a terminal irregular band with a black line on its inner edge. Hind wing semihyaline, the inner area clothed with pale orange hair; veins 4, 5 from cell or stalked, 8 a spur.

Ab. 1. With the medial band interrupted or absent above median nervure.

Ab. 2. With the bands darker and brownish, the subterminal band interrupted in places.

Hab. CANADA (*Bush*); U.S.A., Grote and Zeller Colls.; MEXICO. *Exp.* 46-54 millim.

Larva, Dyar, Psyche, vi. pp. 162 & 164. Pack. Ann. N. Y. Ac. Sci. viii. p. 69.

Mature: Head black and shiny, labrum and antennæ white; somites black with thick hair; abdominal feet whitish; spiracles white; pencils of long black hair from wart 2 on somites 3, 4 and from wart 3 on somite 12; thinner pencils of white hair from wart 4 on somites 3, 4 and from the large wart on somite 13; the other hairs light drab or ochreous, keeled on dorsum; warts grey except warts 3 on somite 12 which are pale with orange at bases; cervical shield black, bisected. Food-plant, various deciduous trees.

Cocoon dense, composed of larval hairs.

Var. *harrisii*, Pack. Ann. N. Y. Ac. Sci. viii. p. 72.

Adult larva: Head yellow; anterior part of clypeus, labrum and antennæ whitish; body clothed with silky white hair, the dorsal pencils on thoracic somites rich ochreous orange; 2nd and 3rd somites with two lateral pairs of white pencils; 11th somite with a pair of dorsal white pencils; body whitish, with lateral series of large black patches; spiracles ringed with black; irregular black patches at base of legs.

*1499. *Halisidota masoni*.

Phægoptera masoni, Schaus, Ent. News Philad. 1895, p. 29; Druce, Biol. Centr.-Am., Het. ii. p. 376, pl. 74. f. 19.

♀. Orange; antennæ black; tegulæ with black points; abdomen with lateral black stripes and ventral bands. Fore wing with V-shaped subbasal grey band from costa to vein 1 edged with black and with the veins on it streaked with black; a medial black-edged grey band crossed by black veins; a similar discoidal patch extending to costa; a somewhat oblique and irregularly sinuous postmedial blackish line defined by greyish on outer side; the terminal area brownish with the veins streaked with black; underside with the markings black; a subterminal brownish shade.

Hab. MEXICO, Jalapa, type ♀ in Coll. Mason. *Exp.* 74 millim. This species is unknown to me.

1500. *Halisidota cyclozonata*, n. sp. (Plate XL. fig. 2.)

♂. Head and thorax yellow with brown markings; abdomen yellow, dorsally suffused with crimson. Fore wing yellow, irrorated and suffused with brown; a subbasal brown line; an antemedial band of round brown-edged yellow spots with crimson centres; a similar medial series of spots forking towards costa; a postmedial series ending at tornus, with small spot nearer termen above vein 4 and no spot above vein 3; a subterminal series from costa to vein 3, the spots above veins 4 and 6 nearer termen; a terminal series of small spots. Hind wing semihyaline yellow tinged with crimson.

Hab. AMAZONS, Olivencas (*Michelli*), 1 ♂ type; ECUADOR, Sarayacu (*Buckley*); PERU, Huayabamba (*Garlepp*), 1 ♀. *Exp.* 30 millim.

1501. *Halisidota lineata*. (Plate XL. fig. 16.)

Halisidota lineata, Schaus, P. Z. S. 1894, p. 230.

Ochreous; head and front part of thorax blackish, the vertex with a black stripe; legs ochreous and black, the femora orange; abdomen dorsally pale orange, greyish ochreous towards base, blackish lateral and ventral stripes. Fore wing sparsely irrorated with black; a diffused blackish fascia on median nervure bent upwards to below apex. Hind wing ochreous white.

Hab. BRAZIL, Castro Paraña (Jones), 1 ♂. *Exp.* 38 millim. Type† in Coll. Schaus.

1502. *Halisidota quanta*. (Plate XL. fig. 17.)

Halisidota quanta, Schaus, J. N. Y. Ent. Soc. iv. p. 139 (1896).

♀. Head and thorax bright yellow, the latter somewhat streaked with rufous; abdomen paler. Fore wing bright yellow; a slightly curved rufous fascia from base along median nervure, thence to apex; an orange discoidal point; traces of an antemedial, two post-medial, a subterminal, and almost terminal oblique dentate lines sometimes forming series of lunulate marks. Hind wing yellowish white.

Hab. BRAZIL, Castro Paraña, 1 ♀; BOLIVIA, Locotal (Garlepp). *Exp.* 44 millim. Type† ♀ in Coll. Schaus.

1503. *Halisidota oruba*. (Plate XL. fig. 18.)

Halisidota oruba, Schaus, P. Z. S. 1892, p. 280.

♂. Ochreous; head and thorax slightly tinged with brown; antennæ brown; abdomen with the ventral surface whitish. Fore wing irrorated with brown scales; a rufous fascia from base on median nervure and thence to apex; indistinct oblique postmedial and subterminal series of dentate lunules. Hind wing yellowish white, with some slight marks on termen and larger mark below vein 2.

♀. Fore wing sometimes with discoidal rufous patch conjoined to the rufous fascia; hind wing with some dark points on termen or immaculate.

Hab. COLOMBIA; BRAZIL, Rio Grande do Sul, Rio Janeiro, 1 ♂, Petropolis, type† ♀ in Coll. Schaus. *Exp.* 50–60 millim.

1504. *Halisidota umbrosa*, n. sp. (Plate XL. fig. 14.)

♂. Fuscous brown; palpi blackish at sides; tegulae and patagia with slight black points; pectus, base of legs, and ventral surface of abdomen paler. Fore wing strongly irrorated with black; some slight black points on costa and one at lower angle of cell; three obliquely-placed black spots from apex continued as a subterminal series; the tornal area from the oblique spots to inner margin before

middle suffused with purplish fuscous. Hind wing purplish fuscous, the underside paler except the terminal area which has an irregular inner edge; some dark marks in cell.

Hab. BRAZIL, Rio Janeiro, 1 ♂ type, Rio Grande do Sul, 1 ♂. *Exp.* 50 millim.

1505. *Halisidota cedon*.

Halisidota cedon, Druce, Biol. Centr.-Am., Het. ii. p. 372, pl. 74. f. 11 (1897).

♂. Head and thorax brownish ochreous; palpi, frons, and legs browner; abdomen brown above, ochreous below. Fore wing ochreous largely suffused with reddish brown; an indistinct antemedial band of dark-edged ochreous spots, angled in cell; some small dark-edged ochreous lunules on costal area, in cell. and at origin of vein 2, an oblique series from apex to inner margin before middle, and another series from termen below apex to inner margin beyond middle. Hind wing fuscous brown.

♀. Fore wing more orange-yellow and less tinged with brown; hind wing with patches of ochreous, or orange-yellow with slight dark patches.

Hab. PANAMA, Chiriqui, 1 ♂; BRAZIL, Sta. Catherina, 1 ♂, Leopoldina; PERU, Callanga. *Exp.* 46 millim. Type† in Coll. Staudinger.

1506. *Halisidota pulvereæ*. (Plate XL. fig. 21.)

Halisidota pulvereæ, Schaus, J. N. Y. Ent. Soc. iv. p. 138 (1896).

♂. Ochreous yellow; palpi brownish at sides. Fore wing irrorated with groups of blackish and brown scales; a small black spot at lower angle of cell; traces of an oblique antemedial brownish line; obscure oblique postmedial and subterminal series of V-shaped spots defined by brown, the postmedial series having similar spots beyond them between veins 3 and 5; traces of an oblique blackish streak from apex; a terminal series of black points. Hind wing pale semihyaline yellow, with a subterminal dark point above vein 5.

Hab. BRAZIL, Rio Janeiro, 1 ♂, Castro Paraña, 1 ♂. *Exp.* 44 millim. Type† in Coll. Schaus.

1507. *Halisidota coniota*, n. sp. (Plate XLI. fig. 1.)

Ochreous yellow; palpi in front and frons brown; head and thorax slightly irrorated with brown; fore coxæ and femora brown in front; abdomen suffused with brown above, sometimes forming bands towards extremity. Fore wing strongly irrorated with brown, forming traces of dentate antemedial and medial lines and of postmedial and subterminal series of lunules; a black spot or small ocellus at lower angle of cell, and sometimes a point above origin of

vein 2; an obscure oblique brown streak from apex to lower angle of cell; a series of blackish points on the subterminal lunules and a terminal series. Hind wing with the inner area slightly tinged with brown and some obscure spots or marks on termen.

Hab. ECUADOR (*Buckley*), 1 ♀; SURINAM; BRAZIL, Rio Grande do Sul, Sta. Catherina, Rio Janeiro, 1 ♀ type, Castro Paraña, ♂ in Coll. Schaus; BOLIVIA, Chaco. *Exp.*, ♂ 48, ♀ 54 millim.

1508. *Halisidota longa*. (Plate XLI. fig. 15.)

Euhalisidota longa, Grote, Can. Ent. xii. p. 213 (1880); Kirby, Cat. Het. p. 209.

Ochreous; head and thorax slightly tinged with brown. Fore wing irrorated with groups of fuscous scales, some of them forming traces of dentate postmedial and subterminal lines; an oblique streak from lower angle of cell followed by a shorter streak, then a point towards apex; a subterminal series of points. Hind wing yellowish white.

Hab. U.S.A., Florida, Enterprise, 1 ♂, 1 ♀ type. *Exp.*, ♂ 50, ♀ 54 millim.

1509. *Halisidota rhomboidea*.

Bombyx rhomboidea, Sepp, Ins. Surinam, ii. pl. 61 (1848); Kirby, Cat. Het. p. 211.

Halisidota strigulosa, Wlk. iii. 737 (1855); Druce, Biol. Centr.-Am., Het. i. p. 93; Kirby, Cat. Het. p. 211.

Phegoptera mandus, Herr.-Schäff. Aussereur. Schmett. i. f. 286 (1855); Kirby, Cat. Het. p. 211.

Halisidota citrina, Wlk. xxxi. 314 (1364).

Orange-yellow to pale ochreous; palpi tinged with fuscous in front; fore femora orange. Fore wing with five very oblique series of rufous-edged spots, elliptical on basal area, lunulate on terminal; a slight diffused brownish shade at lower angle of cell; an oblique series of dark points from apex to inner margin before middle and a subterminal series, both placed on outer edge of series of spots. Hind wing yellowish white, the inner area yellower; veins 4, 5 usually more or less strongly stalked; 8 absent, represented by a spur or rarely reaching costa.

Hab. MEXICO, Jalapa, Cuesta de Misantla (*Trujillo*); GUATEMALA; PANAMA (*Champion*), Godman-Salvin Coll.; ECUADOR; BOLIVIA, Chaco (*Garlepp*), 1 ♀; PERU, Vilcanota (*Garlepp*); SURINAM; BRAZIL, Pára, type *strigulosa*, São Paulo (*Jones*), Rio Janeiro (*Buckley*). *Exp.* 46-54 millim.

Larva. Black; the sutures of head and intersegmental folds of thoracic somites pale; the thoracic and terminal somites with long black and white hair projecting forward and backward; the other somites with short white hair; the dorsal and lateral area of somites 6-11 pinkish, with dorsal black line. Food-plant, *Paspalum indicum* (Graminaceæ).

1510. *Halisidota polyodonta*, n. sp. (Plate XLI. fig. 2.)

Ochreous; thorax and legs slightly streaked with brown; abdomen with the ventral surface pale. Fore wing with subbasal dark point below the cell; indistinct highly and irregularly dentate antemedial and medial lines; a grey spot at lower angle of cell; oblique post-medial and subterminal series of dentate dark-edged spots, the former bent outwards at vein 5, the latter with series of small elliptical annuli beyond them. Hind wing pale ochreous.

Hab. AMAZONS, Parintins (*Austen*), 3 ♂, 1 ♀ type. *Exp.*, ♂ 34, ♀ 36 millim.

1511. *Halisidota atrimaculata*, n. sp. (Plate XLI. fig. 16.)

Ochreous; palpi with black spot at sides of 2nd joint; vertex of head, tegulæ, patagia, tibiæ, and tarsi with black spots. Fore wing irrorated with groups of black scales, some of them forming traces of oblique postmedial and subterminal dentate lines; some small black spots below base of cell; an antemedial spot on costa with a spot just beyond it in the cell and one on inner margin; a medial spot on inner margin and a larger discoidal spot; a small spot beyond the cell above vein 5, and a larger subterminal spot; a terminal series of small spots with larger spot below vein 2. Hind wing yellowish white.

Hab. BRAZIL, Rio Janeiro, 1 ♂, 1 ♀ type, Rio Grande; BOLIVIA, Suapé; PERU, Hillap. *Exp.*, ♂ 42, ♀ 50 millim.

1512. *Halisidota leucanina*.

Halisidota leucanina, Feld. Reis. Nov. pl. 109. f. 1 (1874); Kirby, Cat. Het. p. 211.

Halisidota infucata, Berg, An. Soc. Arg. xiii. p. 216 (1882); Kirby, Cat. Het. p. 207.

Halisidota phellia, Druce, A. M. N. H. (6) iv. p. 86 (1889); Kirby, Cat. Het. p. 212.

Ochreous; palpi fuscous at sides; tegulæ with pair of black points, patagia with two pairs; fore femora orange above; abdomen tinged with brown above. Fore wing irrorated with groups of black scales, forming very obscure oblique series of small lunules; a small black annulus at lower angle of cell; a more distinct subterminal series of lunules, two towards apex displaced inwards; a terminal series of indistinct annuli with black points on their inner edges. Hind wing pale ochreous.

Hab. COLOMBIA, Bogotá, type ♀ in Coll. Rothschild, 1 ♂ ECUADOR, 2 ♂; BRAZIL, Rio Janeiro, 2 ♂, 1 ♀, Petropolis; São Paulo (*Jones*), 1 ♂, 1 ♀; ARGENTINA (*Leech*), 2 ♂, 1 ♀, Missiones. *Exp.*, ♂ 46, ♀ 48 millim.

1513. *Halisidota squalida*.

Phagoptera squalida, Herr.-Schäff. Aussereur. Schmett. f. 288 (1855); Kirby, Cat. Het. p. 207.

Orange-yellow. Fore wing with two indistinct brownish dentate

antemedial lines; three irregular oblique postmedial lines, and a more prominent lunulate subterminal line; a slightly darker fascia in discal fold. Hind wing very pale yellow.

Hab. BRAZIL, Leopoldina, Rio Janeiro, 1 ♀, Castro Paraña, 1 ♂, 1 ♀, Sta. Catherina; BOLIVIA, Chaco. *Exp.*, ♂ 40, ♀ 44 millim.

*1514. *Halisidota ochracea*.

Halisidota ochracea, Möschl. Verh. zool.-bot. Ges. Wien, xxxii. p. 337, pl. 18. f. 28 (1883); Kirby, Cat. Het. p. 208.

♀. Head and thorax orange; abdomen rather paler. Fore wing orange; the medial area with four indistinct minutely waved lines; three fine postmedial lines excurved from costa to vein 4, then incurved; traces of a subterminal series of dentate marks. Hind wing pale yellow.

Hab. SURINAM, type ♀ in Coll. Staudinger. *Exp.* 40 millim.

1515. *Halisidota acuta*, n. sp. (Plate XLI. fig. 21.)

♂. Ochreous; frons with blackish spots; branches of antennæ brown; tarsi tinged with fuscous above; abdomen dorsally suffused with fuscous brown except at base. Fore wing irrorated with fuscous; a black point at lower angle of cell; very obscure postmedial and subterminal series of dentate spots with dark points on them; the apex somewhat produced and acute and the termen oblique. Hind wing semihyaline ochreous white, the inner area clothed with pale reddish hair; an obscure diffused fuscous strongly crenulate line with a more distinct lunule below vein 2.

Hab. BRAZIL, Sta. Catherina, 1 ♂ type. *Exp.* 52 millim.

1516. *Halisidota annulosa*. (Plate XLI. fig. 6.)

Halisidota annulosa, Wlk. iii. 738 (1855); Kirby, Cat. Het. p. 208.

Halisidota niveigutta, Wlk. vii. 1709 (1856); Druce, Biol. Centr.-Am., Het. ii. p. 373 (part.); Kirby, Cat. Het. p. 210.

Yellow; head and thorax slightly marked with brown; abdomen whitish below. Fore wing with fine irregularly brown lines, disposed somewhat in pairs meeting on the veins and forming series of annulate, lunulate and irregular marks, the antemedial line defined on outer side by a brownish mark from costa to median nervure; an almost straight oblique medial line with a silvery white point beyond it at lower angle of cell; a subterminal dark point above vein 5. Hind wing yellowish white; veins 4, 5 from cell or shortly stalked, or in one specimen strongly stalked and on right side crossing each other before reaching termen; 8 absent or as a short spur.

Hab. MEXICO, Tabasco, Dos Arroyos (*H. H. Smith*), 1 ♂, Tres Marias Is. (*Forrer*), 1 ♀, Jalapa (*Hoega*), 1 ♀, Godman-Salvin Coll.; VENEZUELA, 1 ♂ type; AMAZONS, Pará, 1 ♀. *Exp.*, ♂ 32, ♀ 30-40 millim. Type *niveigutta* in Mus. Oxon.

1517. *Halisidota catenulata*.

Hipocrita catenulata, Hübn. Samml. Ex. Schmett. i. (1827); Kirby, Cat. Het. p. 210.

Bombyx sesia, Sepp, Ins. Surinam, ii. pl. 54 (1848); Kirby, Cat. Het. p. 211.

Charidea texta, Herr.-Schäff. Aussereur. Schmett. f. 281 (1855); Kirby, Cat. Het. p. 208.

Halisidota thyophora, Schaus, J. N. Y. Ent. Soc. iv. p. 140 (1896).

Halisidota seruba, Druce, Biol. Centr.-Am., Het. i. p. 93, part. (nec H.-S.).

Yellow; head and thorax slightly marked with brown; abdomen pale below. Fore wing with numerous fine, rather irregularly waved brown lines, two of them forming a rather sinuous oblique band from lower angle of cell to inner margin; a dark point at angle of discocellulars, and sometimes a whitish streak on lower discocellular; a dark point on the subterminal line above vein 5; a dentate terminal line. Hind wing yellowish white; 4, 5 from cell or stalked, 8 a spur.

Hab. CUBA; MEXICO, Presidio (*Forrer*); GUATEMALA (*Champion*); PANAMA (*Ribbé, Champion*), Godman-Salvin Coll.; VENEZUELA, Aroa, type † *thyophora* in Coll. Schaus; SURINAM; BRAZIL, Espiritu Santo; PERU, Callao (*J. J. Walker*); ARGENTINA (*Leech*). *Exp.*, ♂ 30–40, ♀ 36–46 millim.

Larva white; head yellowish; 1st somite with a dorsal green patch, the 2nd with a dorsal black patch; a blackish dorsall line; the anterior and posterior somites with tufts of long white hair projecting forward and backward; two tufts of yellow hair on terminal somite; the rest of hair white. *Cocoon* white. *Pupa* green. Food-plant, *Inga vera*.

1518. *Halisidota labaca*.

Halisidota labaca, Druce, A. M. N. H. (6) v. p. 214 (1890); id. Biol. Centr.-Am., Het. ii. p. 371, pl. 74. f. 9; Kirby, Cat. Het. p. 210.

♂. Ochreous yellow; 3rd joint of palpi black; tarsi banded with black; abdomen orange above. Fore wing with subbasal, antemedial, medial, and postmedial brown spots on costa and medial and postmedial spots on inner margin; a discoidal point; a brown patch on termen from below apex to vein 4. Hind wing semi-hyaline yellowish.

♀. Fore wing with the spots larger, medial and postmedial waved brown bands from cell and vein 4 to inner margin.

Hab. MEXICO, Jalisco (*Richardson*), 1 ♂, 1 ♀ type, Godman-Salvin Coll. *Exp.*, ♂ 30, ♀ 36 millim.

*1519. *Halisidota melaleuca*.

Lophocampa melaleuca, Feld. Reis. Nov. pl. 101. f. 7 (1874); Kirby, Cat. Het. p. 217.

♀. Head and thorax white; palpi, lower part of frons, antennæ, and front of tegulæ black-brown; pectus and legs brown; abdomen brown, the lateral and ventral surfaces white, with lateral brown

line and ventral stripe. Fore wing white; a black-brown spot at base; a subbasal band from costa to vein 1, expanding outwards on median nervure; an antemedial spot on costa; a curved medial maculate band with paler brown centre, conjoined at lower angle of cell to a postmedial irregular band from costa to below median nervure, expanding at lower angle of cell where it has a waved outer edge, the remainder of band represented by brownish spots on vein 2 and inner margin; the terminal area pale olive-brownish, with two dark spots on costa towards apex and spots on termen between veins 6 and 2. Hind wing white, with brown spot at upper angle of cell; a lunulate brown subterminal band ending in a point above tornus.

Hab. COLOMBIA, Bogotá, type ♀ in Coll. Rothschild. *Exp.* 52 millim.

1520. *Halisidota brunneitincta*, n. sp. (Plate XLI. fig. 7.)

♂. Head and thorax brownish ochreous; palpi, frons, and antennæ blackish, palpi with some orange at end of 1st and 2nd joints, basal joint of antennæ orange; a black streak on vertex of head and broader streaks on tegulæ; patagia with blackish edges; legs black and white, fore and mid femora orange above; abdomen orange, with dorsal and lateral series of black spots, the ventral surface whitish. Fore wing ochreous, suffused with olive-brown; an orange and black mark at base; a whitish fascia on vein 1 to the antemedial band, which is strongly angled on median nervure and very oblique towards costa and below the cell; a whitish spot on middle of costa, with another just beyond it, the two nearly meeting in middle of cell and connected with inner margin by an oblique series of small spots; a diffused blackish discoidal patch; a triangular postmedial spot on costa and series of small spots strongly incurved below vein 3; a subterminal series of small dark-edged spots, two towards apex larger; a pale apical mark. Hind wing fuscous, the base yellowish white; a medial band formed of irregular spots; some small subterminal spots from apex to vein 2.

♀. Fore wing with the medial spots on costa reduced and with no small spots between them and inner margin; hind wing with the whitish markings much reduced.

Hab. BRAZIL, Rio Janeiro, 1 ♂, 1 ♀ type. *Exp.*, ♂ 50, ♀ 60 millim.

1521. *Halisidota rusca*. (Plate XLI. fig. 10.)

Mazeras rusca, Schaus, J. N. Y. Ent. Soc. iv. p. 141 (1896).

♂. Head and thorax orange-vermilion; palpi in front and 3rd joint, antennæ, front of tegulæ, and edges of patagia grey-brown; tibiæ and tarsi grey-brown, with red rings; abdomen yellow, the hair at base orange-red, dorsal and lateral series of black spots, the ventral surface orange-red. Fore wing orange, thickly irrorated with scarlet; the base and costal area suffused with scarlet;

the veins grey-brown; obscure antemedial, medial, postmedial, and subterminal bands formed of small brownish-purple spots; cilia brown. Hind wing yellowish white tinged with crimson; the costal area, inner margin, and termen crimson.

Hab. BRAZIL, São Paulo (*Jones*), 2 ♂. *Exp.* 44 millim. Type † in Coll. Schaus.

1522. *Halisidota interstriata*, n. sp. (Plate XLI. fig. 20.)

♂. Head, thorax, and abdomen pale grey-brown; palpi fuscous, the 1st joint orange; basal joints of antennæ, back of head, and neck orange; wings pale semihyaline yellowish brown. Fore wing with the veins brown; some obscure fuscous marks in cell divided by whitish lines; a whitish patch in end of cell; a fuscous spot near base of vein 2 and fuscous streaks in interspaces of terminal area expanding into obscure spots near cell. Hind wing yellower.

Hab. BRAZIL, Castro Paraña (*Jones*), 1 ♂ type, Casa Branca, Rio Grande. *Exp.* 36 millim.

*1523. *Halisidota leria*. (Plate XLI. fig. 17.)

Phæoptera leria, Druce, P. Z. S. 1890, p. 497; Kirby, Cat. Het. p. 213.

♀. Ochreous brown; palpi black, ochreous in front and at extremity; legs marked with fuscous; abdomen darker brown on dorsum, becoming blackish towards extremity and on sides. Fore wing irrorated with black; traces of a curved yellowish subterminal maculate band, with waved black irroration on its outer edge; cilia intersected blackish and ochreous. Hind wing semihyaline yellowish; the inner area brownish; veins 4, 5 stalked.

Hab. ECUADOR, Sarayacu (*Buckley*), type † ♀ in Coll. Druce. *Exp.* 56 millim.

*1524. *Halisidota leda*. (Plate XLI. fig. 11.)

Phæoptera leda, Druce, P. Z. S. 1890, p. 497; Kirby, Cat. Het. p. 209.

♀. Head, thorax, and abdomen orange-yellow; palpi with the 1st and 2nd joints black above, pale below, the 3rd joint black; patagia with black spot; pectus and ventral surface of abdomen yellowish white; legs banded with black. Fore wing thinly sealed; irrorated with small black scales, some of which form two obscure spots beyond the cell above and below vein 6, and others two obscure series of spots on terminal area. Hind wing almost hyaline except towards margins; veins 4, 5 extremely shortly stalked.

Antennæ with very short branches.

Hab. DOMINICA (*Angas*), type † ♀ in Coll. Druce. *Exp.* 70 millim.

1525. *Halisidota rhoda*, n. sp. (Plate XLI. fig. 12.)

♂. Head and thorax scarlet; 3rd joint of palpi, frons, antennæ, patches on vertex of head and tegulæ, edges of patagia and a stripe on thorax brown; abdomen orange, the 1st segment crimson, dorsal and lateral series of black spots, the ventral surface red-brown.

Fore wing pale crimson, the costa, inner margin, veins, and cilia brown. Hind wing pale crimson, the cilia brown.

Hab. BOLIVIA, Tanampaya (*Garlepp*), 1 ♂ type. *Exp.* 44 millim.

1526. *Halisidota pallida*. (Plate XLI. fig. 19.)

Phægoptera pallida, Schaus, A. M. N. H. (7) vii. p. 267 (1901).

♂. Head and thorax very pale ochreous brown; palpi with spots at sides of 1st and 2nd joints and the 3rd joint black; black spots on frons, vertex of head, and three on patagia, the one on frons sometimes absent; abdomen orange-yellow, with subdorsal series of black spots and sublateral series of points. Fore wing pale ochreous brown and thinly scaled, the veins darker; the costal edge whitish. Hind wing semihyaline yellowish.

Hab. ECUADOR, Loja, 1 ♂; PERU, Callanga, Chanchamayo; BOLIVIA, Songo. *Exp.* 54 millim. Type † in Coll. Schaus.

*1527. *Halisidota arenacea*. (Plate XLI. fig. 13.)

Phægoptera arenacea, Schaus, A. M. N. H. (7) vii. p. 266 (1901).

♂. Orange-yellow; palpi with the 3rd joint black; vertex of head, shoulders, and patagia with black spots; abdomen with subdorsal series of small black spots, the ventral surface paler. Fore wing thinly scaled and irrorated with darker scales; the veins deep orange. Hind wing semihyaline yellowish.

Hab. ECUADOR, Loja, type in Coll. Schaus. *Exp.* 56 millim.

*1528. *Halisidota ordinaria*. (Plate XLI. fig. 5.)

Pseudapistosis ordinaria, Schaus, P. Z. S. 1894, p. 230.

Head and thorax pale reddish brown; marks on inner side of palpi, sides of head, and basal joint of antennæ orange; coxæ orange; abdomen orange, the long hair at base brownish, followed by three dorsal black spots; a lateral series of black spots, the ventral surface brownish. Fore wing pale reddish brown and thinly scaled with darker mottling. Hind wing whitish, tinged with pale reddish brown on inner area, in female uniformly tinged with brown except on disk.

Hab. BRAZIL, Petropolis, type † in Coll. Schaus. *Exp.*, ♂ 48, ♀ 56 millim.

1529. *Halisidota iridescens*. (Plate XLI. fig. 9.)

Munona iridescens, Schaus, P. Z. S. 1894, p. 233.

Very pale yellow; palpi, antennæ, back of head, edges of tegulæ, and streaks on patagia and vertex of thorax orange; fore coxæ and the femora above orange, the last with black spot at extremity. Fore wing pale silky semihyaline yellow, the veins ochreous. Hind wing yellowish white.

Hab. VENEZUELA, Aroa, 1 ♂; PERU, Chanchamayo. *Exp.*, ♂ 54, ♀ 70 millim. Type † in Coll. Schaus.

*1530. *Halisidota humosa*.

Lophocampa humosa, Dognin, Ann. Soc. Ent. Belge, xxxvii. p. 424 (1893); id. Léop. Loja, pl. 11. f. 3.

♀. Head and thorax orange; palpi and antennæ black; legs black, the femora fringed with orange hair; abdomen with the 1st segment orange, the next four black, the terminal three orange; ventral surface black except terminal segment, on which the black runs to a medial point; wings whitish, suffused with dull smoky brown, all the veins black. Fore wing with the base and costa whiter.

Hab. ECUADOR, Loja. *Exp.* 68 millim. Type † in Coll. Dognin.

*1531. *Halisidota triphylia*.

Phægoptera triphylia, Druce, A. M. N. H. (6) xviii. p. 40 (1896); id. Biol. Centr.-Am., Het. ii. p. 376, pl. 74. f. 18.

♀. Head and thorax orange; palpi and antennæ black; tegulæ with the extremity and outer edge brown; pectus and legs black; abdomen deep black except the four terminal segments dorsally, a lateral series of orange spots; wings smoky brown, the veins black.

Hab. PANAMA, Chiriqui (*Trötsch*), type ♀ in Coll. Staudinger. *Exp.* 72 millim. This species is unknown to me.

Genus **METAXANTHIA**, nov.

Type, *M. vespiformis*.

Proboscis fully developed; palpi upturned, reaching above vertex of head; antennæ of female with short branches; tibiæ with the spurs moderate; wings semihyaline. Fore wing long and narrow; vein 2 from beyond middle of cell; 3 from before angle; 5 from just above angle; 6 from below upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 2 from beyond middle of cell; 3 from before angle; 5 from above angle; 6, 7 from upper angle; 8 from towards end of cell.

*1532. *Metaxanthia vespiformis*.

Metaxanthia vespiformis, Druce, A. M. N. H. (7) iii. p. 465 (1899).



Fig. 94.—*Metaxanthia vespiformis*, ♀. †.

♀. Head, thorax, and basal half of abdomen black, the last with the terminal half orange, the anal tuft pale yellow. Fore wing semihyaline, sparsely clothed with small fuscous scales; the veins and margins black. Hind wing hyaline, the veins and margins black.

Hab. AMAZONS, Villa Nova (*Bates*), 1 ♀ type † in Mus. Oxon.; PERU, Surumaya. *Exp.* 34 millim.

Genus **ARCTAGYRTA**, nov.Type, *A. nana*.

Proboscis fully developed; palpi upturned, hardly reaching vertex of head; antennæ bipectinate, with moderate branches dilated at extremity; mid and hind tibiæ with minute terminal pairs of spurs. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from upper angle; 7 and 10 stalked; 8, 9 absent; 11 from cell. Hind wing with vein 3 from well before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

*1533. *Arctagyrtia nana*.

Aglyrtia nana, Wlk. vii. 1652 (1856); Kirby, Cat. Het. p. 121.

♂. Black; frons, palpi below, coxæ, femora, and ventral surface of abdomen whitish. Fore wing with two hyaline streaks in cell; a short streak below the cell; elongate patches between veins 2 and 4 and a minute streak above 4. Hind wing with hyaline streak in lower part of cell and a fascia



Fig. 95.—*Arctagyrtia nana*, ♂. †.

below the cell and between veins 2 and 4.

Hab. AMAZONS. *Exp.* 22 millim. Type † in Mus. Oxon.

Genus **AGORÆA**.

	Type.
<i>Agoræa</i> , Herr.-Schäff. Aussereur. Schmett. p. 20 (1850).....	<i>longicornis</i> .
<i>Pagara</i> , Wlk. vii. 1678 (1856)	<i>longicornis</i> .

Proboscis fully developed; palpi upturned to just above vertex of head and smoothly scaled; antennæ of male bipectinate; tibiæ with the spurs moderate; abdomen dorsally clothed with long hair towards base. Fore wing with vein 3 from close to angle of cell; 5 from just above angle; 6 from below upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3 and 5 from close to angle of cell; 6 and 7 from upper angle; 8 from middle of cell.

SECT. I. Antennæ of male bipectinate with moderate branches, of female with short branches.

A. Colour ochreous white	<i>rectilinea</i> .
B. Colour grey-brown.	
<i>a.</i> Head orange.....	<i>longicornis</i> .
<i>b.</i> Head grey-brown	<i>minuta</i> .

1534. *Agoræa rectilinea*. (Plate XLIV. fig. 2.)

Halesidota rectilinea, Burm. Descr. Rep. Arg. viii. p. 445 (1878); Kirby, Cat. Het. p. 211.

♂. Ochreous white; palpi with black spots, frons with black bar with two orange spots above it; antennæ black streaked with white; vertex of head with one black and two orange spots; tegulæ orange below; shoulders with extrusible tufts of long hair; vertex of thorax with black stripe; an orange lateral stripe; legs striped with black; fore coxæ orange at sides; abdomen orange, with dorsal

black spots on first two segments, two lateral series of black spots, the ventral surface ochreous white. Fore wing with fine fuscous streaks on the veins, the median nervure and vein 4 with rather stronger black streak. Hind wing semihyaline yellowish.

Hab. BRAZIL, Castro Paraña (*Jones*), 1 ♂; ARGENTINA. *Exp.* 42 millim.

1535. *Agoræa longicornis*.

Agoræa longicornis, Herr.-Schäff. Aussereur. Schmett. f. 442 (1854); Druce, Biol. Centr.-Am., Het. i. p. 163; Kirby, Cat. Het. p. 429.

Pagara venosa, Wlk. vii. 1679 (1856); Kirby, Cat. Het. p. 362.

Euchates emendatus, H. Edw. Papilio, iv. p. 61 (1884); Kirby, Cat. Het. p. 236.

Head, tegulæ, shoulders, and fore coxæ orange; palpi fuscous, the basal joint orange; antennæ brown; patagia, thorax, and legs



Fig. 96.—*Agoræa longicornis*, ♂. 1.

brown; abdomen orange, the first three segments brown, slight dorsal and lateral brown lines, the ventral surface brownish grey. Fore wing grey-brown, the veins darker and often with a somewhat paler patch in end of cell. Hind wing

whitish, the marginal areas tinged with brown or more or less completely pale brown; the veins rather darker.

Hab. MEXICO, Jalapa (*Trujillo*), 4 ♂; GUATEMALA, Atitlan, 1 ♂, 1 ♀, Vera Paz, 1 ♂, 2 ♀, Las Mercedes (*Champion*), 2 ♂, 1 ♀; COSTA RICA (*Underwood*), 2 ♂, 1 ♀; PANAMA, Chiriqui (*Champion*), 1 ♂, 2 ♀, Godman-Salvin Coll.; BRAZIL, Espiritu Santo, 1 ♂, Rio Janeiro, 1 ♀ type *venosa* in Mus. Oxon. *Exp.* 28–30 millim.

1536. *Agoræa minuta*.

Agoræa minuta, Schaus, P. Z. S. 1892, p. 288; Druce, Biol. Centr.-Am., Het. ii. p. 410, pl. 79, f. 2.

Head, thorax, and legs pale grey-brown; 1st joint of palpi, pectus, and abdomen orange, the last grey-brown at base and with dorsal series of black points. Fore wing semihyaline brownish grey, the margins yellower; the interspaces slightly, and the veins more strongly streaked with brown. Hind wing semihyaline yellowish white; the veins slightly streaked with brown towards termen; the cilia pale yellow.

Hab. MEXICO, Tabasco (*H. H. Smith*), 2 ♂, 1 ♀; GUATEMALA, Las Mercedes (*Champion*), 1 ♂, 1 ♀; Godman-Salvin Coll.; BRAZIL, Corcovado, Rio Janeiro, type in Coll. Schaus. *Exp.* 26–30 millim.

SECT. II. Antennæ of male bipectinate with short branches, of female minutely serrate and fasciculate.

1537. *Agoræa pellucida*.

Bombyx pellucida, Sepp, Surin. Vlind. ii. p. 175, pl. 76 (1848); Druce, Biol. Centr.-Am., Het. ii. p. 410; Kirby, Cat. Het. p. 211.

Head and thorax pale grey-brown; palpi at sides and back of head with black spots; patagia and thorax with black stripes; pectus white, with orange and black lateral stripes; legs whitish, with brown and black stripes; fore coxæ orange at sides; abdomen orange, the 1st segment grey-brown, a dorsal and two lateral series of black spots, the ventral surface brownish white. Fore wing semihyaline brownish grey,



Fig. 97.—*Agoræa pellucida*, ♂. 1.

the interspaces slightly streaked with brown; the veins streaked with black; a black spot at lower angle of cell. Hind wing semihyaline brownish white.

Hab. MEXICO, Yucatan (*Godman*), 1 ♀, *Godman-Salvin Coll.*; ST. VINCENT (*H. H. Smith*), 2 ♂, 1 ♀; TRINIDAD (*Hart*), 1 ♂; SURINAM; BRAZIL, Amazons, Prainha (*Trail*), 1 ♀, São Paulo (*Jones*), 2 ♀. *Exp.* 24–40 millim.

Genus BITURYX.

<i>Bituryx</i> , Wlk. iii. 717 (1855)	Type
	<i>diversipes</i> .

Proboscis fully developed; palpi porrect to just beyond the frons; antennæ of male bipectinate with moderate branches, of female with short branches; tibiæ with the spurs short; abdomen smoothly scaled, with lateral tubercles at base. Fore wing rather narrow; vein 3 from near angle of cell; 5 from above angle; 6 from below upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 3 from close to angle of cell; 5 from just above angle; 7 from or from just before upper angle; 8 from middle of cell.

SECT. I. Abdomen of female with the terminal segment and ventrally the last four segments greatly dilated with tufts of woolly hair.

A. Hind wing white.....	<i>intacta</i> .
B. Hind wing brownish, with dark streaks on the veins	<i>venosata</i> .

1538. *Bituryx intacta*. (Plate XLI. fig. 4.)

Bituryx intactus, Wlk. iii. 719 (1855); Kirby, Cat. Het. p. 204.

♀. White; head and tegulæ pale yellow; palpi at tips and antennæ brownish; legs brown above, fore coxæ yellow; abdomen orange, with dorsal and lateral series of black spots, the ventral surface white. Fore wing with brown streaks on the veins. Hind wing semihyaline.

Hab. VENEZUELA, 1 ♀ type. *Exp.* 34 millim.

1539. *Bituryx venosata*.

Bituryx venosata, Wlk. xxxi. 304 (1864); Druce, Biol. Centr.-Am., Het. ii. p. 410, pl. 79. f. 4; Kirby, Cat. Het. p. 204.



Fig. 98.—*Bituryx venosata*, ♀. 1.

♀. Head and tegulæ yellow; antennæ blackish; thorax whitish; legs striped with fuscous, the fore coxæ yellow; abdomen orange-yellow, the terminal segment and ventral surface white, a lateral series of black spots; wings brownish white, the veins streaked with fuscous black; cilia of hind wing white.

Hab. MEXICO, Vera Paz (*Sallé*), 1 ♀ type, Guerrero (*H. H. Smith*), 1 ♀; PANAMA, Bugaba (*Champion*), 1 ♀, Godman-Salvin Coll., Chiriqui. *Exp.* 40 millim.

SECT. II. Abdomen of female without tufts of woolly hair.

A. Abdomen crimson, with dorsal and lateral series of black spots.

a. Fore wing semihyaline, the veins dark *diversipes*.

b. Fore wing uniform whitish..... *lanceolata*.

B. Abdomen grey, yellowish toward extremity *grisea*.

1540. *Bituryx diversipes*.

Bituryx diversipes, Wlk. iii. 718 (1855); Kirby, Cat. Het. p. 204.

Halisidota rhodogaster, Snell. Tijds. v. Ent. xxx. p. 31, pl. 3. f. 1 (1887); Kirby, Cat. Het. p. 210.



Fig. 99.—*Bituryx diversipes*, ♂. 1.

Head and thorax grey slightly tinged with fuscous; palpi whitish, blackish at tips, thorax with slight black dorsal stripe; some crimson below the wings; legs whitish with fuscous stripes, fore coxæ at sides and femora above crimson; abdomen crimson, with dorsal and lateral series of black spots, the ventral surface white. Fore

wing semihyaline grey-white, the veins streaked with brown. Hind wing hyaline white.

Hab. VENEZUELA, 1 ♂, 1 ♀ type; CURACAO. *Exp.* 33 millim.

*1541. **Bituryx lanceolata.** (Plate XLI. fig. 8.)

Aloa lanceolata, Wlk. vii. 1702 (1856); Kirby, Cat. Het. p. 205.

♂. Brownish white; palpi and branches of antennæ dark brown; tegulæ pink below; pectus with some pink below base of wings; fore legs with the coxæ at sides and the femora above pink; tibiæ and tarsi above brown; abdomen pink above, with dorsal and lateral series of black spots. Hind wing semihyaline.

Hab. HAITI, type † ♂ in Mus. Oxon. *Exp.* 40 millim.

*1542. **Bituryx grisea.** (Plate XLI. fig. 18.)

Biturix grisea, Dognin, Ann. Soc. Ent. Belge, xliii. p. 251 (1899).

♀. Grey; head, thorax, and abdomen tinged with fuscous; neck with slight orange ring; the terminal segment of abdomen tinged with yellow. Fore wing irrorated with grey-brown; the veins streaked with grey-brown; an obscure subterminal series of spots excurved at middle. Hind wing white, the costal area and the apical half of termen tinged with grey-brown.

Hab. COLOMBIA, Palmira, type † ♀ in Coll. Dognin. *Exp.* 32 millim.

Genus **NERITOS.**

	Type.
<i>Neritos</i> , Wlk. iii. 711 (1855).....	<i>repanda</i> .
<i>Trichroa</i> , Fairm. Ann. Soc. Ent. Belge, xxxviii. p. 395 (1894)...	<i>onytes</i> .
<i>Antiloba</i> , Weym. Stett. ent. Zeit. iv. p. 328 (1894)	<i>repanda</i> .

Proboscis fully developed; palpi upturned, reaching vertex of head, the 3rd joint short; antennæ of male usually bipectinate with moderate branches; tibiæ with the spurs moderate; abdomen smoothly scaled. Fore wing with vein 3 from near angle of cell; 4, 5 from angle or shortly stalked; 7, 8, 9 stalked; 10, 11 stalked or from cell; male usually with a fovea below middle of cell on underside, a swelling on upperside, containing a thick brush of hair. Hind wing with vein 2 from well before angle of cell; 3, 5 stalked, 4 absent; 6, 7 from angle of cell or shortly stalked; 8 from middle of cell.

SECT. I. (*Trichroa*). Hind wing of male with the costal area as long as inner area, the termen deeply excised below vein 6; fore wing with the fovea and tuft elongate, vein 2 sinuous; female with vein 10 from the cell; antennæ of male minutely serrate and ciliated.

1543. **Neritos onytes.**

Noctua onytes, Cram. Pap. Exot. ii. pl. 165, E (1777); Kirby, Cat. Het. p. 198.

Sphinx psamas, Cram. Pap. Exot. iii. pl. 234, G (1779); Kirby, Cat. Het. p. 197.

♂. Crimson; palpi yellow below; antennæ yellow, white at

tips; vertex of head with yellow patch; legs yellow, fore legs streaked with crimson; abdomen with dorsal white spot at base,



Fig. 100.
Neritos onytes, ♂. ½.

the extremity yellow, the ventral surface white. Fore wing brownish crimson from costa before middle to termen above tornus, with sinuous crimson edge; the apical half yellow, with rounded apical crimson-edged brownish patch extending down to vein 4. Hind wing crimson, the cilia yellowish.

♀. Abdomen yellow, suffused with fuscous above; fore wing with the basal and apical patches conjoined, leaving triangular yellow patches on middle of costa and termen; hind wing yellow, suffused with brown except the termen.

Hab. PANAMA, Chiriqui; SURINAM; AMAZONS, R. Jutahi (*Trail*), 1 ♂, Para, 1 ♀; BOLIVIA, Songo; PERU, Chanchamayo. *Exp.*, ♂ 30, ♀ 34 millim.

SECT. II. (*Neritos*). Hind wing of male with the costal half of wing about half length of inner half and very strongly lobed; fore wing with the fovea and tuft short.

1544. *Neritos repanda*.

Neritos repanda, Wlk. iii. 711 (1855); Kirby, Cat. Het. p. 197.
Antiloba carnea, Weym. Stett. ent. Zeit. iv. p. 329 (1894).

♂. Head and thorax brown, vertex of head crimson; antennæ whitish at tips; abdomen crimson, the extremity, ventral surface, and legs yellowish white. Fore wing with a brown patch on inner area, extending from one third of costa with strongly sinuous edge to termen above tornus; the apical half pale yellow, with large round



Fig. 101.—*Neritos repanda*, ♂. ½.

brown patch from costa and termen to vein 4. Hind wing pale yellow more or less tinged with pink.

♀. Fore wing with the round apical patch conjoined by a broad band to the patch on inner area.

Hab. BRAZIL (*Dohrn*), 1 ♂ Zeller Coll., São Paulo (*D. Jones*), 2 ♀, Rio Janeiro, 1 ♂ type. *Exp.* 30 millim.

SECT. III. Hind wing with the costal area less strongly lobed and extending to three fourths of inner area.

A. Fore wing of male with elongate fovea and tuft below the cell near base.

a. Fore wing of male with veins 10, 11 stalked; antennæ serrate and fasciculate.

a¹. Pectus yellow *sanguipuncta*.

b¹. Pectus white *pandera*.

*1545. *Neritos sanguipuncta*.

Neritos sanguipuncta, Schaus, A. M. N. H. (7) vii. p. 265 (1901).

♂. Palpi scarlet above, yellow below with a dark spot at extremity; frons and antennæ brown; vertex of head yellow; thorax brown, the patagia edged with scarlet; pectus, legs, and abdomen yellow, the last dorsally scarlet except at extremity.



Fig. 102.—*Neritos sanguipuncta*, ♂. 1.

Fore wing with the basal area purple-brown, its edge somewhat dentate at the veins and running obliquely from costa before middle to termen above tornus; a short oblique scarlet striga across middle of vein 1; the apical area yellow, with large rounded purple-brown subapical patch with somewhat indented circumference, a scarlet streak above it on costa.

♀. Fore wing with the apical patch conjoined by a narrow band to the basal patch.

Hab. VENEZEULA, Merida; ECUADOR, Loja, 1 ♂ type † in Coll. Schaus. *Exp.* 32 millim.

1546. *Neritos pandera*. (Plate XLI. fig. 14.)

Trichromia pandera, Schaus, J. N. Y. Ent. Soc. iv. p. 137 (1896).

Head and thorax greyish brown; pectus and legs white; abdomen orange, with crimson dorsal spot at base, the ventral surface white. Fore wing with the basal area brown, shading to pale silvery purple towards its outer edge, which is oblique from costa before middle to termen above tornus and somewhat dentate at the veins; the apical area semihyaline yellow, with rounded purplish apical patch with somewhat crenulate edge. Hind wing orange-yellow.

Hab. VENEZUELA, Aroa, 1 ♀; AMAZONS, Rio Negro, ♂ in Coll. Staudinger. *Exp.* 36 millim. Type† ♀ in Coll. Schaus.

- b. Fore wing with veins 10, 11 from cell in both sexes;
antennæ of male pectinate.
 α^1 . Abdomen crimson.
 α^2 . Fore wing of male without oblique yellow band... *flavorosea*.
 β^2 . Fore wing of male with oblique yellow band *samos*.
 β^1 . Abdomen yellow..... *cotes*.

1547. *Neritos flavorosea*.

Evius flavoroseus, Wlk. iii. p. 640 (1855); Druce, Biol. Centr.-Am., Het. i. p. 90, & ii. p. 367, pl. 73. f. 25; Kirby, Cat. Het. p. 198.



Fig. 103.—*Neritos flavorosea*, ♂. $\frac{1}{2}$.

♂. Purplish crimson; antennæ brown, white at tips; pectus, extremity and ventral surface of abdomen yellow. Fore wing with oblique purplish shade from middle of costa to middle of termen. Hind wing orange-yellow.

♀. Fore wing with triangular crimson-edged orange patches on middle of costa and termen.

Hab. MEXICO, Yucatan (*Gaumer*), 1 ♀, Godman-Salvin Coll.; HONDURAS, 1 ♀ type, Belize (*Robertson*), 1 ♂. *Exp.* 38 millim.

*1548. *Neritos samos*.

Neritos samos, Druce, A. M. N. H. (6) xviii. p. 39 (1896); id. Biol. Centr.-Am., Het. ii. p. 368, pl. 74. f. 1.

♂. Head and thorax pinkish crimson; pectus and legs yellow, fore legs crimson in front; abdomen crimson above, yellow below. Fore wing pinkish crimson, with oblique yellow band from costa just beyond middle to middle of termen, its edges rather sinuous and expanding to costa and termen. Hind wing yellow.

Hab. BR. HONDURAS, Belize (*Moloney*), type ♂ in Coll. Druce. *Exp.* 34 millim.

1549. *Neritos cotes*.

Neritos cotes, Druce, A. M. N. H. (6) xviii. p. 38 (1896), ♂; id. Biol. Centr.-Am., Het. ii. p. 367, pl. 73. f. 24.

Neritos tipolis, Druce, A. M. N. H. (6) xviii. p. 39 (1896), ♀; id. Biol. Centr.-Am., Het. ii. p. 367, pl. 73. f. 27.

♂. Head and thorax pinkish brown; vertex of head yellow; antennæ brown, white at tips; abdomen orange-yellow. Fore wing grey-brown, the inner basal area pinkish; subtriangular yellow patches on middle of costa and termen. Hind wing orange-yellow; underside with fuscous patch on apical part of costa and termen.

♀. Fore wing with the yellow patches on costa and termen confluent; the subapical patch reduced leaving more yellow on termen.

Hab. COSTA RICA, Candelaria Mts. (*Underwood*), 1 ♂ type, Godman-Salvin Coll.; GUATEMALA, type ♀ *tipolis* in Coll. Staudinger. *Exp.* 34 millim.

B. Fore wing of male without fovea.

a. Fore wing with veins 10, 11 from cell.

a¹. Hind wing yellow..... *neretina*.

b¹. Hind wing crimson..... *cardinalis*.

*1550. *Neritos nere'ina*. (Plate XLII. fig. 9.)

Trichromia neretina, Dyar, J. N. Y. Ent. Soc. vi. p. 37 (1898).

♂. Head ochre-yellow; frons purplish brown; thorax purple-brown; legs pale yellow; fore femora crimson in front; abdomen pale yellow, suffused with crimson on dorsum. Fore wing with the inner area purple-brown from costa before middle to termen just above tornus, its upper edge curved and somewhat dentate at the veins; the apical half of wings yellow, with a large purple-brown subapical patch extending just into cell and running down to a point just below lower angle of cell. Hind wing yellowish white.

♀. Fore wing with the projection from subapical patch confluent with the dark basal area; hind wing crimson.

Hab. VENEZUELA, Aroa, Porto Cabello; PERU, Piches and Perene Valleys, 2000–3000 feet. *Exp.* 27 millim.

*1551. *Neritos cardinalis*.

Neritos cardinalis, Dognin, Ann. Soc. Ent. Belge, xliii. p. 327 (1899).

♂. Crimson; head and thorax somewhat mixed with brown; a chrome-yellow bar between antennæ; mid and hind coxæ, base of tibiæ, the spurs, the tarsi except at extremity, and the ventral surface of abdomen yellow. Fore wing thickly mottled with purplish fuscous; an antemedial chrome-yellow band angled inwards at middle and expanding at costa; a dome-shaped spot on middle of costa; spots



Fig. 104.—*Neritos cardinalis*, ♂. 1.

on termen at apex and vein 4, and an irregularly triangular spot above tornus.

Hab. COLOMBIA (*Micay*), type ♂ in Coll. Dognin. *Exp.* 36 millim.

b. Fore wing with veins 10, 11 stalked.

*1552. *Neritos nigricollis*.

Seepsis nigricollum, Dognin, Le Nat. 1892, p. 123; id. Lép. Loja, pl. 8. f. 4

♂. Black-brown; frons and abdomen dorsally tinged with blue

Hind wing fuscous black, with the area below the cell white to beyond middle.



Fig. 105.—*Neritos nigricollis*, ♂. ¼.

Hab. ECUADOR, Loja, type † ♂ in Coll. Dognin. *Exp.* 33 millim.

Genus **PROTOMOLIS**, nov.

Type, *P. promathides*.

Proboscis fully developed; palpi upturned, reaching vertex of head; antennæ bipectinate, with moderate branches; tibiæ with the spurs moderate; abdomen smoothly scaled. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from near angle of cell; 5 from above angle; 6, 7 from upper angle; 8 from middle of cell.

1553. *Protomolis promathides*.

Eucereon promathides, Druce, A. M. N. H (6) xlii. p. 172 (1894); id. Biol. Centr.-Am., Het. ii. p. 363, pl. 73. f. 6.



Fig. 106.—*Protomolis promathides*, ♂. ¼.

♂. Dirty white; palpi with the 1st joint crimson, the other joints and antennæ brownish; neck with some crimson; legs brownish and crimson; abdomen crimson above, with dorsal series of black points. Fore wing slightly speckled with fuscous, especially toward termen.

Hab. MEXICO, Presidio (*Forrer*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 30 millim.

Genus **ÆMILIA**.

	Type.
<i>Ameles</i> , Wlk. iii. 711 (1855); nec Burm. Orthoptera, 1838	<i>roseata</i> .
<i>Æmilia</i> , Kirby, Cat. Het. p. 218 (1892)	<i>roseata</i> .

Proboscis fully developed; palpi porrect, reaching to just beyond the frons; antennæ bipectinate, with moderate branches; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from

close to angle of cell ; 4, 5 from angle ; 6 from upper angle ; 7, 8, 9 stalked ; 10, 11 from cell. Hind wing with vein 3 from angle of cell ; 4, 5 stalked ; 6, from upper angle ; 8 from beyond middle of cell, not reaching costa.

- | | |
|--|--------------------|
| A. Fore wing whitish, with rufous stripes on the veins..... | <i>ambigua.</i> |
| B. Fore wing rufous, with scarlet streaks on the veins | <i>roseata.</i> |
| C. Fore wing dark red-brown, with basal and terminal patches of white spots..... | <i>rubriplaga.</i> |
| D. Fore wing dark brown, with yellow patches on costa. | |
| <i>a.</i> Tegulæ pale yellow in front | <i>crassa.</i> |
| <i>b.</i> Tegulæ wholly dark | <i>testudo.</i> |
| E. Fore wing uniform dark brown | <i>pagana.</i> |
| F. Fore wing pale brown, with darker discoidal mark | <i>asignata.</i> |

1554. *Æmilia ambigua.*

Halisidota ambigua, Stretch, Proc. Davenport Acad. Nat. Sci. ii. p. 274, pl. 9. f. 7 (1878) ; Druce, Biol. Centr.-Am., Het. ii. p. 374 ; Kirby, Cat. Het. p. 212.

Seirarctia bolteri, H. Edw. Papilio, iv. p. 121 (1884).

Halesidota syracosia, Druce, A. M. N. H. (6) iv. p. 87 (1889) ; Kirby, Cat. Het. p. 212.

Head, tegulæ, and part of patagia yellowish or pinkish white ; palpi pink ; antennæ orange ; the outer part of patagia and thorax red-brown ; legs rufous and white ; abdomen dorsally tinged with crimson. Fore wing white, with rather broad rufous fasciæ on the veins, the veins themselves and costa more crimson. Hind wing semihyaline white ; the veins yellow-brown ; the inner area tinged with crimson.

Hab. COLORADO ; MEXICO, Jalapa, Guerrero (*H. H. Smith*), 1 ♀ ; GUATEMALA (*Rodriguez*), 1 ♂, Godman-Salvin Coll. *Exp.*, ♂ 40, ♀ 50 millim.

1555. *Æmilia roseata.* (Plate XLII. fig. 20.)

Halisidota roseata, Wlk. Lord's Nat. in Vancouver, ii. p. 336 (1868) ; Kirby, Cat. Het. p. 218.

Phæoptera cinnamomea, Boisd. Ann. Soc. Ent. Belge, xii. p. 80 (1868) ; Kirby, Cat. Het. p. 212.

Halesidota significans, H. Edw. Ent. Am. iii. p. 182 (1888) ; Kirby, Cat. Het. p. 212.

Halisidota sanguivenosa, Neum. Can. Ent. xxiv. p. 228 (1892).

♀. Head, thorax, and abdomen scarlet ; frons with some ochreous hair above ; patagia and thorax streaked with ochreous ; the hair on legs and on base of abdomen ochreous. Fore wing red-brown, the veins, costa, inner margin beyond middle, and termen scarlet ; ochreous streaks on basal area below costa, two in cell, two in submedian interspace, and one on inner margin ; a scarlet line from costa near base very oblique to vein 1, where it is acutely angled ; two semihyaline spots in end of cell ; an oblique series from costa beyond middle to middle of inner margin, slightly excurved at middle, the spots on costa and inner margin ochreous ; a subterminal

series of dentate semihyaline spots. Hind wing semihyaline yellowish white, the margins yellow, the inner margin slightly tinged with scarlet.

Ab. 1. *significans*. Fore wing with the spots ill-defined, confluent, forming bands crossing the veins which are only scarlet between them.

Hab. BR. COLUMBIA, Chulukwegah (*Trail*), 1 ♀ type; U.S.A., California, New Mexico. *Exp.* 38 millim.

Subsp. 1. *occidentalis*, French, Can. Ent. xxii. p. 46 (1890); Kirby, Cat. Het. p. 209.

The red markings replaced by ochreous.

Hab. Colorado.

1556. *Æmilia rubriplaga*. (Plate XLII. fig. 1.)

Ameles rubriplaga, Wlk. iii. 712 (1853); Kirby, Cat. Het. p. 218.

♀. Dark red-brown, upper part of frons and vertex of head yellowish white with brown mark; tegulæ and patagia with yellowish-white patches; pectus and legs yellow, the tibiæ and tarsi brown with yellowish-white bands; abdomen crimson, with brown dorsal patch from base to middle, the last two segments and ventral surface orange-yellow. Fore wing with white basal patch from costa to vein 1, crossed by a yellowish waved band defined by fine brown lines, and with slight orange points beyond it on costal area and in cell; a broad oblique band of yellow and white spots defined by brown from middle of costa to vein 1; a terminal patch of white spots with yellow ones between them defined by fine brown lines from costa to vein 3, leaving a brown spot on termen between veins 5 and 6; some yellow points on cilia. Hind wing fuscous brown, the base and costal area to near apex crimson; cilia with yellow spots.

Hab. VENEZUELA, 1 ♀ type. *Exp.* 48 millim.

1557. *Æmilia crassa*. (Plate XLII. fig. 2.)

Automolis crassa, Wlk. xxxi. 104 (1864); Kirby, Cat. Het. p. 166.

♂. Head pale yellow; palpi, a bar across frons, and antennæ brown; neck with pink ring; tegulæ and shoulders pale yellow, the former with the extremities brown, the edges of patagia and thorax orange and pale pink; pectus pink; legs pale yellow and brown, the tarsi banded with white; abdomen fuscous brown, with pale yellow segmental rings, the ventral surface yellow, the anal tuft and a lateral series of spots brown. Fore wing semihyaline brown, the median nervure and vein 1 streaked with orange; yellow fulvous-edged patches on middle and apical part of costa. Hind wing hyaline, the costal and inner areas brown, a yellow patch on middle of costa.

Hab. COLOMBIA, Bogotá (*Stevens*), 1 ♂ type. *Exp.* 42 millim.

1558. *Æmilia testudo*, n. sp. (Plate XLII. fig. 21.)

♂. Dark brown, vertex of head pale yellow; shoulders with pale yellow patches; neck pinkish fulvous; tarsi ringed with yellow. Fore wing brown with a slight silvery gloss; the median nervure streaked with fulvous; yellow spots on costa at middle and before apex. Hind wing hyaline, the terminal area tinged with fuscous broadly at apex and tornus.

Hab. PERU, Chanchamayo (*Thamm*), 1 ♂ type. *Exp.* 34 millim.

1559. *Æmilia pagana*.

Halisidota pagana, Schaus, P. Z. S. 1894, p. 230.

Black-brown; palpi orange, black at tip; the basal joint of antennæ, a bar between their bases, and the sides of vertex orange; the edges of patagia, pectus, and femora above orange; abdomen



Fig. 107.—*Æmilia pagana*, ♀. 1.

with lateral orange bands intersecting the dorsal black area, which on the last two segments is more or less reduced to spots. Fore wing with the veins darker; some orange hair at base of inner margin of fore wing and at base of hind wing, which is rather thinly scaled.

Hab. BRAZIL, Castro Paraña (*Jones*), 1 ♂. *Exp.* 42 millim. Type † in Coll. Schaus.

1560. *Æmilia asignata*, n. sp. (Plate XLII. fig. 7.)

Pale brown; palpi at tips and frons fuscous; vertex of head yellowish; abdomen dorsally orange, with short dorsal bands and lateral series of spots. Fore wing with the discocellulars fuscous. Hind wing whitish, tinged with brown towards termen.

Hab. BRAZIL, Rio Grande do Sul, 1 ♀ type, ♂ in Coll. Staudinger. *Exp.* 44 millim.

Genus TYRIA.

	Type.
<i>Tyria</i> , Hübn. Verz. p. 166 (1827)	<i>jacobææ</i> .
<i>Euchelia</i> , Boisd. Gen. Ind. Meth. p. 56 (1840)	<i>jacobææ</i> .
<i>Hipocrita</i> , Hübn. Tent. ined.	<i>jacobææ</i> .

Proboscis aborted, small; palpi porrect, short, and clothed with long hair; head and thorax clothed with rough hair; abdomen more smoothly scaled; antennæ of male ciliated; tibiæ with the spurs moderate. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from upper angle or from 7; 7, 8, 9 stalked; 10 from 11 anastomosing with 7, 8, 9 to form an areole, 6 being sometimes connected with 7. Hind wing with veins 3, 4 from angle; 5 well above angle; 6, 7 stalked; 8 from middle of cell.

1561. *Tyria jacobææ*.

Noctua jacobææ, Linn. Syst. Nat. i. p. 511 (1758); Esp. Schmett. iv. (1) p. 87, pl. 91. ff. 6-8; Curtis, Brit. Ent. v. pl. 499; Steph. Ill. Brit. Ent., Haust. ii. p. 90; Staud. Cat. p. 56; Kirby, Cat. Het. p. 351.
Callimorpha senecionis, Godt. Lép. Fr. iv. p. 377, pl. 42. f. 4 (1822).
Euchelia jacobææ, ab. *flavescens*, Thierry Mieg, Le Nat. ser. ii. vol. iii. p. 181 (1889).

Head, thorax, and abdomen black-brown with a slight bluish gloss. Fore wing fuscous; a crimson subcostal fascia ending in a spot near base on costa and one towards apex just below costa; a fascia on inner margin from close to base to middle; terminal spots on veins 6 and 2. Hind wing crimson, the costal area and cilia fuscous.



Fig. 108.—*Tyria jacobææ*, ♂. 1.

Ab. 1. Fore wing with the terminal spots conjoined into a band and conjoined to the subcostal fascia.

Ab. 2. *flavescens*. The crimson replaced by yellow.

Hab. EUROPE except Polar region, Norway, Germany, Switzerland, Zeller and Frey Colls.; ASIA MINOR; ARMENIA; ALTAI. *Exp.* 40-48 millim.

Larva. Meyr. Brit. Lep. p. 37; Barratt, Lep. Brit. ii. p. 248, pl. 69. f. 4.

Orange; hairs black, scanty; each somite with a broad black ring; head black, tubercle i. anterior, ii. posterior, iii. lateral; iv. small, stigmal, posterior; v. subventral; vi. subventral posterior with two hairs, vii. with four hairs, viii. with one hair. Food-plants, *Senecio jacobææ*, *S. vulgaris*, and *Tussilago farfara*.

Genus **EUCHLÆNIDIA**, nov.

Ty E . transcisa.

Proboscis fully developed; palpi obliquely upturned to above vertex of head and roughly scaled; antennæ of female bipectinate, with moderate branches; tibiæ with the spurs short; build slender. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with vein 3 from well before angle of cell; 5 from well above angle; 6, 7 on a long stalk; 8 from before middle of cell, which is long.

1562. *Euchlænidia transcisa*.

Phæochlæna transcisa, Wlk. ii. 468 (1854); Kirby, Cat. Het. p. 291.

♀. Brown; 1st joint of palpi, sides of frons, and neck orange; metathorax with orange patch; abdomen with lateral and ventral orange stripes. Fore wing yellow-brown, the veins rather paler;

an oblique yellowish band from costa beyond middle to inner margin near tornus. Hind wing orange, with the terminal area black, very broad on apical area and at tornus where it runs up to middle of inner margin, the orange ending in a point on vein 2.



Fig. 109.—*Euchlænidia transcisa*, ♀. 1.

Underside of fore wing with the band wide, orange, and expanding widely from below costa to just above inner margin.

Hab. BRAZIL, 2 ♀ type. *Exp.* 44 millim.

Genus BRYCEA.

Brycea, Wlk. ii. 563 (1854) Type. *disjuncta*.

Proboscis fully developed; palpi upturned, hardly reaching vertex of head; antennæ of male ciliated; tibiae with the spurs moderate; abdomen with some rough hair at base. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle, or 5 from above angle; 6 from below upper angle or stalked with 7, 8, 9; 7 sometimes from the same point as 9 or from beyond it. Hind wing with vein 3 from well before angle of cell, which is long; 4, 5 from angle; 6, 7 stalked; 8 from middle of cell.

1563. *Brycea disjuncta*.

Brycea disjuncta, Wlk. ii. 563 (1854); Druce, Biol. Centr.-Am., Het. i. p. 126, pl. 12. f. 23; Kirby, Cat. Het. p. 291.
Euchelia jenna, Boisd. Léop. Guat. p. 96 (1869).



Fig. 110.—*Brycea disjuncta*, ♂. 1.

Black shot with deep green; tegulæ orange. Fore wing with orange fascia on median nervure from near base to lower angle of cell; a somewhat curved band across apical area from below costa to near termen, and a spot above tornus. Hind wing with slight purplish instead of green tinge; a wedge-shaped orange patch in and below cell to just beyond upper angle and to well beyond lower angle.

Hab. ? MEXICO; ? GUATEMALA; BRAZIL, 1 ♂, 1 ♀ type. *Exp.* 42 millim.

Genus **HOLOMELINA.**

Type.

<i>Eubaphe</i> , Hübn. Zutr. ex. Schmett. ii. p. 9 (1827), non descr. ; Wlk. ii. 523 (1854)	<i>aurantiaca</i> .
<i>Crocota</i> , Hübn. Zutr. ex. Schmett. ii. p. 28 (1827), non descr. ; Wlk. ii. 535 (1854)	<i>aurantiaca</i> .
<i>Holomelina</i> , Herr.-Schäff. Aussereur. Schmett. p. 15 (1850) ...	<i>aurantiaca</i> .
<i>Cathocida</i> , Wlk. xxxii. 499 (1865)	<i>opella</i> .

Proboscis absent; palpi porrect, downcurved, extending more than length of head; frons with tuft of hair; antennæ of male ciliated; tibiæ with the spurs short. Fore wing with vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 10 stalked, 9 absent, 7 from beyond 10; 11 from cell. Hind wing with vein 4 absent; 5 from above angle; 6, 7 stalked; 8 from before middle of cell.

- A. Hind wing crimson.
 - a. Fore wing with white fasciæ on costa and in discal and submedian folds *polyphron*.
 - b. Fore wing without white fasciæ.
 - a¹. Hind wing with the inner area crimson.
 - a². Vertex of head crimson *cocciniceps*.
 - b². Vertex of head brown.
 - a³. Underside of fore wing crimson to beyond middle *semitrosea*.
 - b³. Underside of fore wing not crimson *lata*.
 - b¹. Hind wing with the inner area black.
 - a². Underside of fore wing with the terminal area not black.
 - a³. Palpi crimson at base *ostenta*.
 - b³. Palpi black at base *pomponia*.
 - b². Underside of fore wing with the terminal area black. *mirma*.
- B. Hind wing scarlet or tinged with scarlet, rarely wholly blackish.
 - a. Head and underside of thorax and abdomen black.
 - a¹. Hind wing with complete terminal black band *metazonata*.
 - b¹. Hind wing with large black patch at tornus *rogersi*.
 - b. Head and underside of thorax and abdomen brown and scarlet.
 - a¹. Hind wing with the inner area not suffused with black.
 - a². Fore wing orange *aurantiaca*.
 - b². Fore wing fuscous grey or brown with scarlet costal edge.
 - a³. Hind wing without broad black terminal band ... *costata*.
 - b³. Hind wing with broad black terminal band *intermedia*.
 - b¹. Hind wing with the inner area suffused with black ... *opella*.
 - c. Head and thorax ferruginous brown without any scarlet.
 - a¹. Antennæ whitish *pallicornis*.
 - b¹. Antennæ fulvous.
 - a². Fore wing with white streak at base below cell *heros*.
 - b². Fore wing with white spots *disparilis*.
- C. Hind wing ochreous; fore wing with white fascia below base of cell. *lata*.
- D. Hind wing orange or partly orange.
 - a. Fore wing with white fascia below base of cell and spot below its extremity *feronia*.
 - b. Fore wing without white fascia below the cell.
 - a¹. Fore wing with triangular orange patch on base of costa.
 - a². Fore wing with the orange patch produced along costa to beyond middle *pamphylia*.

- δ^2 . Fore wing with the orange patch not produced on costa *trigonifera*.
 δ^1 . Fore wing with orange fascia on costa to beyond middle. *cetes*.
 c^1 . Fore wing without orange on costa.
 a^2 . Palpi orange at base *esula*.
 δ^2 . Palpi black at base.
 a^3 . Hind wing with broad black terminal band *arbela*.
 δ^3 . Hind wing with the cilia only black *tenuicincta*.

1564. *Holomelina polyphron*.

Bænasa polyphron, Druce, A. M. N. H. (6) xiii. p. 177 (1894); id. Biol. Centr.-Am., Het. ii. p. 399, pl. 78. f. 9.

♂. Head and thorax black-brown; shoulders with crimson points; femora crimson above; abdomen black, with crimson segmental lines on dorsum and lateral stripes. Fore wing black-brown, the costal edge ochreous white; a fascia in submedian fold from base to near termen and one in discal fold from discocellulars to near termen. Hind wing crimson; the inner area black; a broad terminal black band with waved inner edge. Underside of fore wing with the fasciæ crimson.

Hab. MEXICO, 1 ♂, Morelia (*Godman*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 22 millim.

1565. *Holomelina cocciniceps*. (Plate XLII. fig. 10.)

Eubaphe cocciniceps, Schaus, A. M. N. H. (7) vii. p. 269 (1901).

♀. Palpi scarlet at base, the 3rd joint and frons brown; vertex of head and neck scarlet; thorax brown; abdomen blackish, brown below. Fore wing greyish brown; the costal edge crimson from base to beyond middle; a minute crimson point at base and sometimes one on discocellulars. Hind wing crimson, with moderately broad black terminal band with sinuous inner edge. Underside of fore wing crimson with brown terminal band, the crimson somewhat diffused over it.

Hab. U.S.A., Colorado, Manitou, 1 ♀. *Exp.* 36 millim. Type ♀ in Coll. Schaus.

1566. *Holomelina semirosea*.

Brycea semirosea, Druce, A. M. N. H. (6) iv. p. 89 (1889); id. Biol. Centr.-Am., Het. ii. p. 396, pl. 77. f. 20; Kirby, Cat. Het. p. 291.

♂. Head and thorax dull brown; basal joint of palpi, a ring round neck, stripes below shoulders and patches on sides of fore coxæ crimson; abdomen blackish, with slight lateral crimson streaks. Fore wing dull brown, the costal edge crimson to beyond middle; a short streak on base of inner margin. Hind wing crimson, with broad black terminal band with somewhat sinuous inner edge. Underside of fore wing crimson; the terminal area blackish, its inner edge bent outwards to costa and inner margin.

Hab. MEXICO, Vera Cruz, Atoyac (*Schumann*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 38 millim.

1567. *Holomelina læta*.

Lithosia læta, Guér. Icon. R. Anim., Ins. p. 519, pl. 88. f. 6 (1839); Kirby, Cat. Het. p. 353.

Crocota treatii, Grote, Proc. Ent. Soc. Philad. iv. p. 322 (1865); Kirby, Cat. Het. p. 353.

Lithosia rubropicta, Pack. Ent. Am. iii. p. 52 (1887); Kirby, Cat. Het. pp. 326, 353.

♂. Head and thorax black-brown; palpi with the basal joint crimson; abdomen crimson above with dorsal maculate black stripe, the ventral surface black. Fore wing black-brown, with the costal edge crimson to beyond middle. Hind wing crimson, with the terminal area black-brown.

Hab. U.S.A., Atlantic States, Florida, Tampa, 2 ♂, Grote Coll. *Exp.* 24 millim.

1568. *Holomelina ostenta*. (Plate XLII. fig. 17.)

Crocota ostenta, H. Edw. Papilio, i. p. 12 (1881); Kirby, Cat. Het. p. 353.

Palpi blackish; head and thorax pale yellow-brown, with some orange-red on neck and shoulders; pectus and legs grey-brown; abdomen black with slender lateral crimson stripe, the ventral surface brown. Fore wing pale yellow-brown, with orange-red costal fascia to beyond middle. Hind wing crimson, the inner area black, widening outwardly and running with an irregularly waved inner edge to apex. Underside of fore wing crimson, the costa orange.

Hab. U.S.A., Arizona, 1 ♂. *Exp.* 36 millim.

1569. *Holomelina pomponia*.

Ptychoglene pomponia, Druce, A. M. N. H. (6) iv. p. 89 (1889); id. Biol. Centr.-Am., Het. ii. p. 398, pl. 78. f. 8; Kirby, Cat. Het. p. 313.

♀. Head and thorax dark brown; shoulders with crimson stripes; abdomen blue-black, with slight lateral crimson stripes. Fore wing red-brown, with crimson costal fascia. Hind wing blue-black, with the costal area crimson, extending to above median nervure and vein 5 and to termen at apex. Underside of fore wing crimson except cilia; the crimson on hind wing extending to median nervure and to below vein 3 near termen.

Hab. MEXICO, Guerrero (*H. H. Smith*), 1 ♀ type, Godman-Salvin Coll. *Exp.* 38 millim.

*1570. *Holomelina mirma*.

Erycea mirma, Druce, Biol. Centr.-Am., Het. ii. p. 396, pl. 77. f. 22 (1897).

♂. Head and thorax dark olive-brown; palpi at base and a stripe on shoulders scarlet; abdomen blue-black with lateral scarlet streak, the ventral surface browner. Fore wing reddish brown, with scarlet fascia on costa extending to beyond middle. Hind wing black, with

large scarlet patch on costa extending to near apex and to below cell, its lower edge rounded and indented at middle. Underside of fore wing scarlet, with terminal black band expanding below apex and dentate above tornus.

Hab. MEXICO, Las Vegas, type + ♂ in Coll. Schaus. *Exp.* 30 millim.

1571. *Holomelina metazonata*, n. sp. (Plate XLII. fig. 18.)

♀. Head and thorax red-brown; neck with orange ring; abdomen orange-red, with dorsal fascia and the extremity blackish, the ventral surface grey. Fore wing red-brown. Hind wing orange-red, with rather broad terminal black band with sinuous inner edge. Underside of fore wing orange-red, with the costal and terminal areas black-brown, the latter expanding widely towards costa.

Hab. PANAMA, Chiriqui (*Trötsch*), 1 ♀ type; COLOMBIA. *Exp.* 38 millim.

1572. *Holomelina rogersi*.

Eubaphe rogersi, Druce, Biol. Centr.-Am., Het. i. p. 136, pl. 13. f. 8 (1885); Kirby, Cat. Het. p. 353.

♀. Palpi, frons, and antennæ black; vertex of head and thorax above yellow-brown; abdomen scarlet above; pectus, legs, and ventral surface of abdomen black. Fore wing yellow-brown suffused with red-brown. Hind wing scarlet, with more or less developed black subterminal spot in discal fold and a large somewhat irregular patch at tornus; the cilia usually black. Underside of fore wing with black spot at tornus.

Hab. COSTA RICA, Irazu, Rio Sucio (*Rogers*), 3 ♀, type. *Exp.* 34 millim.

1573. *Holomelina aurantiaca*.

Eubaphe aurantiaca, Hübn. Zutr. ex. Schmett, ii. p. 9, ff. 411-412 (1827); Kirby, Cat. Het. p. 352.

Crocota rubicundaria, Hübn. Zutr. ex. Schmett, ii. p. 28, ff. 311-312 (1827).

Crocota ferruginosa, Wlk. ii. 535 (1854); Kirby, Cat. Het. p. 352.

Crocota brevicornis, Wlk. ii. 536 (1854); Druce, Biol. Centr.-Am., Het. i. p. 136; Kirby, Cat. Het. p. 352.

Crocota quinaria, Grote, Proc. Ent. Soc. Philad. ii. p. 30, pl. 2. f. 2 (1863); Kirby, Cat. Het. p. 352.

Crocota choriona, Reak. Proc. Ent. Soc. Philad. ii. p. 371 (1864).

Arctia bimaculata, Saund. Can. Ent. ii. p. 5 (1869); Kirby, Cat. Het. p. 268.

Crocota belfragei, Stretch, Ent. Am. i. p. 103 (1885); Kirby, Cat. Het. p. 352.

Eubaphe marginata, Druce, Biol. Centr.-Am., Het. i. p. 136, pl. 13. f. 8 (1885); Kirby, Cat. Het. p. 353.

Crocota diminutiva, Graef, Ent. Am. iii. p. 42 (1887); Kirby, Cat. Het. p. 352.

Crocota rosa, French, Can. Ent. xxii. p. 133 (1890); Kirby, Cat. Het. p. 353.

Head and thorax orange; antennæ black; abdomen scarlet above. Fore wing orange. Hind wing scarlet.



Fig. 111.
Holomelina aurantiaca, ♂. 1.

Ab. 1. *ferruginosa*. Fore wing browner, with traces of diffused dark antemedial, medial, and subterminal lines, sometimes with a whitish spot below origin of vein 2; hind wing sometimes with blackish subterminal spots in discal and submedian folds.

Ab. 2. *brevicornis*. Hind wing with subterminal band sometimes nearly complete, sometimes interrupted at middle and not reaching costa; a discoidal spot sometimes present.

Ab. 3. *rubicundaria* = *marginata*. Hind wing with discoidal spot and continuous terminal band; fore wing browner; hind wing usually orange tinged with scarlet.

Ab. 4. *quinaria*. Fore wing with white spots more or less developed below base and end of cell, in end of cell, and a postmedial series; the colour sometimes red-brown; hind wing with subterminal maculate band, the cilia sometimes black.

Hab. CANADA, Hudson's Bay, type *ferruginosa*, Renfrew Co., Grote Coll.; U.S.A., Atlantic States, New York, Massachusetts, Texas, Florida, Grote and Zeller Colls., type *brevicornis*; MEXICO, Jalapa (*Trujillo*), 1 ♂, 1 ♀, Cordova (*Rumeli*), 1 ♂, 2 ♀, Orizaba (*Godman*) 1 ♂, Coatepec (*Brooks*), 1 ♂, Vera Cruz (*H. H. Smith*), 1 ♂, 1 ♀, Durango (*Forrer*), 1 ♂; GUATEMALA, Dueñas (*Champion*), 4 ♂, 1 ♀, type *marginata*. *Exp.* 16–28 millim.

*1574. *Holomelina costata*. (Plate XLII. fig. 15.)

Crocota costata, Stretch, Ent. Am. i. p. 103 (1884); Kirby, Cat. Het. p. 352.

Crocota opelloides, Graef, Ent. Am. iii. p. 42 (1887); Kirby, Cat. Het. p. 353.

♂. Head and thorax fuscous grey; palpi scarlet except at tips; vertex of head scarlet with a fuscous spot; pectus, coxæ, and base of femora scarlet; abdomen scarlet, the ventral surface yellow-brown. Fore wing fuscous grey, the costa scarlet. Underside of fore wing scarlet.

Hab. U.S.A., Texas. *Exp.* 32 millim.

*1575. *Holomelina intermedia*. (Plate XLII. fig. 11.)

Crocota intermedia, Graef, Ent. Am. iii. p. 42 (1887); Kirby, Cat. Het. p. 353.

♀. Head and thorax brown; palpi at base and a rim behind the eyes scarlet; abdomen black above, brown below. Fore wing yellow-brown, the costal edge scarlet. Hind wing scarlet, the terminal area black with sinuous inner edge.

Hab. U.S.A., Texas. *Exp.* 34 millim.

1576. *Holomelina opella*.

Crocota opella, Grote, Proc. Ent. Soc. Philad. i. p. 345, & ii. pl. 2. f. 1 (1863); Kirby, Cat. Het. p. 353.

Crocota nigricans, Reak. Proc. Ent. Soc. Philad. ii. p. 371 (1864); Kirby, Cat. Het. p. 352.

Cothocida nigrifera, Wlk. xxxii. 499 (1865); Kirby, Cat. Het. p. 489.

Crocota obscura, Stretch, Ent. Am. i. p. 103 (1885); Kirby, Cat. Het. p. 352.

Crocota rubricosta, Ehrm. Can. Ent. xxvii. p. 345 (1895).

Crocota belmaria, Ehrm. Can. Ent. xxvii. p. 345 (1895).

♂. Head and thorax yellow-brown; antennæ blackish; abdomen yellow-brown with dorsal black bands. Fore wing yellow-brown, slightly tinged with fuscous towards inner margin. Hind wing black, with indistinct discoidal spot, or the spot more distinct on a dull crimson patch on costal area extending to just beyond the cell.

♀. Hind wing ochreous tinged with crimson, the inner and terminal areas suffused with black; a black discoidal spot.

Ab. 1. *rubricosta*: the whole insect suffused with black, leaving a crimson fascia on middle of costa of hind wing.

Ab. 2. *nigricans*=*belmaria*: wholly suffused with black.

Hab. U.S.A., Atlantic States, New York, 1 ♀ Grote Coll., 2 ♂ type *nigrifera*. Exp., ♂ 24, ♀ 30 millim.

Egg. Dyar, Psyche, 1897, p. 119.

Nearly hemispherical, flat below; shining yellowish nacreous; reticulation obscure, narrowly linear-like fine lines traced on the smooth surface in rather elongate irregular hexagonals. Diam. .55 mm.

Larva. 1st stage: head bilobed, pale reddish brown, width .3 mm.; body whitish, with very long black hairs; warts i.-v. present, large, the edges fitted in slopes to each other; luteous grey; hairs spinulated, i.-iv. black and especially long.

2nd stage: head whitish, eyes black, mouth brown; width .38 mm.; body whitish, the warts concolorous; i. very small, one-haired; ii. large, many-haired; feet pale; hairs fine, black, some much longer; distributed all over body.

Last stage: head black above; clypeus and sutures brown; width 1.8 mm., body dull grey; warts and plates black; hairs stiff, black, short uniform except on wart ii. of thorax and iii. of abdomen, where it is long forming lateral ridges of hair.

Cocoon a somewhat sticky web of white silk.

The eggs are laid at end of July, and the larvæ hibernate when about half-grown; they feed on almost any tender leaves.

*1577. *Holomelina pallicornis*.

Crocota pallicornis, Grote, Proc. Ent. Soc. Philad. vi. p. 312 (1867); Kirby, Cat. Het. p. 352.

♀. Head and thorax dark ferruginous brown; antennæ clothed with whitish scales; abdomen scarlet above. Fore wing dark ferruginous brown, a spot formed of white scales at base, the wing

very slightly irrorated with white; postmedial diffused fuscous marks beyond the cell and above vein 1; the subterminal area paler, defined by a fuscous shade on inner side and on outer deepening in colour to termen. Hind wing pale dull rosy or reddish orange, with a blackish discoidal point and one above tornus. Underside reddish orange, each wing with discoidal point.

Hab. CUBA. *Exp.* 28 millim. This species is unknown to me; the type is lost.

*1578. *Holomelina heros*. (Plate XLIV. fig. 9.)

Crocota heros, Grote, Proc. Ent. Soc. Philad. v. p. 232, pl. 4. f. 2 (1865); Kirby, Cat. Het. p. 352.

♀. Head and thorax tawny fulvous; abdomen paler, with obscure blackish dorsal marks. Fore wing tawny fulvous, with obscure dark marks representing the medial band, the discoidal spot, and subterminal marks of underside; a short white streak edged by dark scales in base of submedian fold. Hind wing fulvous, tinged with scarlet especially on terminal area; an antemedial black band not reaching costa and excurved below the cell; a large discoidal lunule; a subterminal spot above vein 5 and conjoined spots between vein 3 and inner margin. Underside fulvous tinged with scarlet; fore wing with broad black subbasal band, a discoidal spot, and obsolescent subterminal series of black dots.

Hab. CUBA. *Exp.* 34 millim. This species is unknown to me; figured from a drawing from type in Mus. Philadelphia.

*1579. *Holomelina disparilis*. (Plate XLIV. fig. 15.)

Crocota disparilis, Grote, Proc. Ent. Soc. Philad. v. p. 233 (1865); Kirby, Cat. Het. p. 352.

♀. Head and thorax rich dark brown; abdomen fulvous, with obscure dark dorsal markings. Fore wing rich dark brown; a whitish spot at base, one in end of cell, another below the cell, and a fourth, sometimes absent, below the costa towards apex; terminal area paler. Hind wing bright fulvous tinged with scarlet; an antemedial black band, a discoidal spot, and a subterminal maculate band. Underside of fore wing dusky irrorated with reddish scales; a broad black subbasal band with pale edges, a black discoidal spot and a subterminal series of black points.

Hab. CUBA. *Exp.* 30 millim. This species is unknown to me; figured from a drawing from type in Mus. Philadelphia.

*1580. *Holomelina lata*.

Cytorus latus, Grote, Proc. Ent. Soc. Philad. v. p. 232, pl. 4. f. 1 (1865); Kirby, Cat. Het. p. 353.

♂. Brownish ochreous. Fore wing with white streak below the cell from base to origin of vein 2; some fuscous suffusion in cell and above vein 2. Hind wing ochreous yellow.

Hab. CUBA. *Exp.* 25 millim. This species is unknown to me; type in Mus. Philadelphia examined by Prof. Dyar.

1581. *Holomelina feronia*.

Brycea feronia, Druce, A. M. N. H. (6) iv. p. 89 (1889); id. Biol. Centr.-Am., Het. ii. p. 396, pl. 77. f. 21; Kirby, Cat. Het. p. 291.

♂. Head and thorax dark olive-brown; basal joint of palpi below, a ring round neck, and fore coxæ at sides crimson; abdomen black, with broad orange lateral stripes, the ventral surface grey. Fore wing olive-brown, darker on inner area; a whitish fascia below the cell from base to origin of vein 2; a quadrate spot below end of cell, its lower edge in one specimen produced along vein 2 to near termen. Hind wing orange-yellow, with black terminal band widening greatly on apical area and towards tornus. Underside of fore wing orange; the costal edge brown; the terminal area brown, its inner edge angled inwards to near lower angle of cell, then indented by the orange extending to near termen between veins 3 and 2, the brown running inwards above vein 1 to near base.

Hab. MEXICO, Guerrero, Omilteme (*H. H. Smith*), 4 ♂ type, Godman-Salvin Coll. *Exp.* 30 millim.

1582. *Holomelina pamphyilia*.

Ptychoglene pamphyilia, Druce, A. M. N. H. (6) iv. p. 90 (1889); id. Biol. Centr.-Am., Het. ii. p. 399, pl. 78. f. 10; Kirby, Cat. Het. p. 313.

♂. Head and thorax dark brown; palpi with the 1st joint, and the 2nd joint below orange; tegulæ slightly edged with orange; shoulders with scarlet stripes; abdomen black, with orange lateral stripes. Fore wing black-brown, with orange patch on base of costa extending to vein 1, its outer edge oblique and ending in a point on costa beyond middle. Hind wing black; the basal area orange, extending on costa to beyond middle, its outer edge irregular towards inner margin. Underside of fore wing tinged with scarlet towards costa.

Hab. MEXICO, Jalisco (*Schumann*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 28 millim.

1583. *Holomelina trigonifera*. (Plate XLII. fig. 12.)

Holomelina trigonifera, Schaus, A. M. N. H. (7) vii. p. 269 (1901).

♂. Black; palpi at base and stripes on shoulders orange; abdomen with slight lateral orange stripes. Fore wing with triangular orange patch on basal half of costa extending to vein 1, its outer edge rounded. Hind wing with triangular orange-red patch on basal half of costa, extending to just below the cell, its outer edge rounded and slightly irregular. Underside of fore wing with the basal half orange, its outer edge sinuous.

Hab. MEXICO, Guadalajara, 1 ♂. *Exp.* 28 millim. Type † in Coll. Schaus.

*1584. *Holomelina cetes*.

Brycea cetes, Druce, Biol. Centr.-Am., Het. ii. p. 396, pl. 77. f. 18 (1897).

♂. Head and thorax dark olive-brown; palpi orange-red below at base; shoulders with orange-red stripes; abdomen blue-black, with orange-red lateral stripe, the ventral surface olive-brown. Fore wing olive-brown, with orange-red fascia on costa extending to beyond middle. Hind wing black, with large triangular orange-yellow patch on basal three fourths of costa extending to just below cell. Underside of fore wing yellow, tinged with scarlet towards costa, a terminal black band with irregular inner edge.

Hab. MEXICO, Oaxaca, type † ♂ in Coll. Schaus. *Exp.* 30 millim.

1585. *Holomelina esula*.

Brycea esula, Druce, A. M. N. H. (6) iv. p. 88 (1889); id. Biol. Centr.-Am., Het. ii. p. 395, pl. 77. f. 17; Kirby, Cat. Het. p. 291.

♂. Head and thorax yellow-brown; antennæ blackish; basal joint of palpi, a ring round neck, a stripe below the wings, and fore coxæ at sides orange; abdomen with black dorsal stripe, broad orange lateral stripes, the ventral surface brown. Fore wing yellow-brown, with the costal edge orange to beyond middle. Hind wing orange-yellow, with broad black terminal band with somewhat sinuous inner edge. Underside of fore wing orange, the terminal area black-brown, its inner edge bent outwards to costa and inner margin.

Hab. MEXICO, Cuernavaca, Morelos (*H. H. Smith*), 2 ♂ type. *Exp.* 32 millim.

1586. *Holomelina arbela*.

Drycea arbela, Druce, A. M. N. H. (6) iv. p. 89 (1889); id. Biol. Centr.-Am., Het. ii. p. 396, pl. 77. f. 19; Kirby, Cat. Het. p. 291.

♂. Head and thorax dark brown; palpi at base and a ring round neck orange; abdomen blackish, with slight orange lateral streaks. Fore wing dull brown, the costal edge orange to beyond middle. Hind wing orange-yellow, with broad black terminal band with waved inner edge. Underside of fore wing orange-yellow, the terminal area blackish, its inner edge angled inwards below costa and in submedian fold.

Hab. MEXICO City (*Godman*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 40 millim.

1587. *Holomelina tenuicincta*, n. sp. (Plate XLII. fig. 13.)

♂. Head, thorax, and abdomen black-brown; abdomen with subdorsal orange patches at base and subdorsal segmental lines. Hind wing orange-yellow; the cilia black except at tornus. Underside of fore wing orange, the costal edge black; the terminal area black, with irregularly dentate inner edge extending above

vein 5 to discocellulars ; hind wing with the termen narrowly black, broadening somewhat at apex and extending slightly along the veins.

Hab. PERU, Vilcan (*Garlepp*), 1 ♂ type. *Exp.* 32 millim.

Genus VIRBIA.

	Type.
<i>Virbia</i> , Wlk. ii. 470 (1854)	<i>medarda</i> .
<i>Bepara</i> , Wlk. xxxi. 143 (1864)	<i>subapicalis</i> .
<i>Terna</i> , Wlk. xxxi. 267 (1864)	<i>dotata</i> .

Proboscis aborted, minute, ; palpi porrect, downcurved, extending about the length of head ; frons with slight tuft ; antennæ of male ciliated ; build slender ; tibiæ with the spurs short. Fore wing with veins 3, 4, 5 from angle of cell ; 6 from upper angle or shortly stalked with 7, 8, 9, 10, 7 from beyond 9 ; 11 from cell. Hind wing with veins 3 and 5 from angle of cell, 4 absent ; 6, 7 stalked ; 8 from before middle of cell.

- A. Fore wing with whitish fascia below base of cell.
 - a. Neck with crimson ring *thersites*.
 - b. Neck without crimson ring.
 - a¹. Fore wing with postmedial white spot above vein 1 sometimes connected with the fascia.
 - a². Hind wing with the black terminal band not produced on inner area towards base *dotata*.
 - b². Hind wing with the black terminal band produced on inner area towards base *varians*.
 - b¹. Fore wing without postmedial white spot above vein 1 *brevilinea*.
- B. Fore wing without white fascia below base of cell.
 - a. Palpi with the basal joint orange *luteilinea*.
 - b. Palpi with the basal joint dark.
 - a¹. Neck with crimson ring *sanguicollis*.
 - b¹. Neck without crimson ring.
 - a². Fore wing with orange patch on underside.
 - a³. Hind wing with the orange extending to base.
 - a⁴. Hind wing with the orange extending to termen below apex.
 - a⁵. Hind wing orange, with black subterminal spots on veins 2 and 1 *ampla*.
 - b⁵. Hind wing with costal black fascia and large triangular patch on inner area *zonata*.
 - b⁴. Hind wing with the termen black below apex.
 - a⁵. Hind wing with the orange on inner margin reaching tornus *medarda*.
 - b⁵. Hind wing with orange patch at base of inner margin *divisa*.
 - b³. Hind wing with the orange confined to a sub-apical patch *subapicalis*.
 - b². Fore wing without orange patch on underside.
 - a³. Hind wing orange, with terminal black band ... *hypophæa*.
 - b³. Hind wing black, with orange fasciæ in cell and on base of inner margin *xanthopleura*.

1588. *Virbia thersites*.

Virbia thersites, Druce, Biol. Centr.-Am., Het. i. p. 144, pl. 13. f. 24 (1885) ; Kirby, Cat. Het. p. 400.

♀. Head and thorax dark olive-brown ; neck with crimson

ring; pectus with orange stripes below the wings; abdomen black with lateral orange stripes, the ventral surface olive-brown. Fore wing dark olive-brown; a white spot below base of median nervure and a postmedial spot on vein 2. Hind wing orange-yellow, with black fascia on costa except towards base, and broad terminal band expanding somewhat at apex and widely towards tornus.

Hab. PANAMA, Bugaba (*Champion*), 2 ♀ type, Godman-Salvin Coll. *Exp.* 42 millim.

1589. *Virbia dotata*. (Plate XLII. fig. 16.)

Terna dotata, Wlk. xxxi. 267 (1864); Kirby, Cat. Het. p. 399.

Phæochlæna lativitta, Wlk. xxxv. 1876 (1866); Kirby, Cat. Het. p. 399.

♀. Head and thorax olive-brown; neck with orange ring; abdomen orange with dorsal black stripe, the ventral surface olive-brown. Fore wing olive-brown, with whitish fascia below the cell to origin of vein 2 and postmedial spot above vein 1, conjoined to the fascia in type. Hind wing orange, with black fascia on costa except towards base; a black terminal band widening on apical area and above tornus. Underside of fore wing orange, the costal, apical, and terminal areas olive-brown.

Hab. AMAZONS, Mañaos, 1 ♀, Ega (*Bates*), 2 ♀ type, São Paulo (*Bates*), 1 ♀ type *lativitta*. *Exp.* 38 millim.

1590. *Virbia varians*.

Virbia varians, Schaus, P. Z. S. 1892, p. 284; id. Am. Lep. pl. ii. f. 19.

♀. Head and thorax dark red-brown; neck with some orange scales; abdomen orange, with dorsal series of conjoined triangular spots, the ventral surface black-brown. Fore wing dark red-brown, with white fascia in submedian interspace which may extend to just beyond middle or be short and disconnected from a spot just beyond middle. Hind wing orange, with black fascia on costa and terminal band with irregular inner edge, expanding towards tornus and usually emitting a tooth in submedian fold half-way to base. Underside of fore wing orange, with black costal fascia and broad terminal band.

Hab. PERU, 1 ♀. *Exp.* 42 millim. Type † in Coll. Schaus.

1591. *Virbia brevilinea*.

Phæochlæna brevilinea, Wlk. ii. 469 (1854); Kirby, Cat. Het. p. 399.

Terna major, Feld. Reis. Nov. pl. 105. f. 2 (1874).

♀. Head and thorax olive-brown; abdomen black, with lateral yellow stripes. Fore wing olive-brown, with whitish fascia below the cell to origin of vein 2. Hind wing black, with wedge-shaped yellow patch from base extending from just above the cell to just below it and to near termen; a fascia on inner area to beyond middle. Underside of fore wing with wedge-shaped yellow patch from base to near termen.

Hab. BRAZIL, 1 ♀ type. *Exp.* 44 millim.

1592. *Virbia luteilinea*. (Plate XLII. fig. 3.)

Virbia luteilinea, Wlk. ii. 471 (1854); Kirby, Cat. Het. p. 400.

♂. Head and thorax olive-brown; palpi with the basal joint orange; shoulders with orange patches; abdomen black, with orange lateral stripes on basal segments, the ventral surface olive-brown. Fore wing olive-brown. Hind wing orange-yellow, with broad almost even black terminal band. Underside of fore wing orange-yellow, with the terminal third olive-brown.

Hab. MEXICO, 1 ♂ type. *Exp.* 30 millim.

1593. *Virbia sanguicollis*, n. sp. (Plate XLII. fig. 22.)

Virbia mentiens, Druce, Biol. Centr.-Am., Het. i. p. 143 (nec Wlk.).

♂. Head and thorax dark olive-brown; neck with crimson ring; pectus with orange stripes below the wings; abdomen black, with orange lateral stripes, the ventral surface olive-brown. Fore wing olive-brown with darker irroration. Hind wing black, with wedge-shaped orange patch extending from vein 8 to submedian fold and from base to near extremity; a slight orange streak on inner margin; an orange patch in and below end of cell.

Ab. 1. Hind wing with a subbasal black band across the orange patch.

Hab. COSTA RICA, Irazu (*Rogers*), 4 ♂ type, Godman-Salvin Coll. *Exp.* 30 millim.

1594. *Virbia ampla*. (Plate XLII. fig. 4.)

Terna ampla, Wlk. xxxi. 267 (1834); Druce, Biol. Centr.-Am., Het. i. p. 143; Kirby, Cat. Het. p. 399.

♀. Head and thorax olive-brown; neck with orange ring; pectus with orange stripes below wings; abdomen orange-yellow, with black dorsal stripe narrowing to base, the ventral surface olive-brown. Fore wing uniform olive-brown. Hind wing orange-yellow, with diffused black streak on vein 1 towards termen, a subterminal patch on vein 2, and slight terminal mark on vein 1. Underside of fore wing orange, with the costa and termen olive-brown; hind wing with black streak on costa except towards base.

Hab. MEXICO, 1 ♀ type. *Exp.* 54 millim.

1595. *Virbia zonata*.

Terna zonata, Feld. Reis. Nov. pl. 104. f. 13 (1874); Druce, Biol. Centr.-Am., Het. i. p. 143; Kirby, Cat. Het. p. 399.

Josiodes distincta, H. Edw. Pap. iv. p. 14 (1884); Kirby, Cat. Het. p. 295.

♂. Head and thorax olive-brown; neck with slight orange ring; pectus with orange stripe below the wings; abdomen black, with orange lateral stripes, the ventral surface olive-brown. Fore wing dark olive-brown. Hind wing orange-yellow, with black

fascia on costal area except at base, indented before apex and narrowing at apex, and triangular black patch with sinuous edges from near base on vein 1 to termen between veins 1 and 5, leaving a spot on termen above vein 1.

♀. Hind wing with three orange spots on black patch on termen.

Hab. MEXICO, Jalapa (*Trujillo*), 2 ♂, Coatepec (*Brooks*), 1 ♂, Godman-Salvin Coll. *Exp.*, ♂ 38, ♀ 56 millim.

1596. *Virbia medarda*.

Noctua medarda, Stoll, Pap. Exot. iv. pl. 345, F (1782); Kirby, Cat. Het. p. 399.

Virbia mentiens, Wlk. ii. 471 (1854); Kirby, Cat. Het. p. 400.

Terna minuta, Feld. Reis. Nov. pl. 105. f. 3 (1874); Druce, Biol. Centr.-Am., Het. i. p. 144; Kirby, Cat. Het. p. 400.

Virbia parva, Schaus, P. Z. S. 1892, p. 285; id. Am. Lep. p. 15. pl. 2. f. 15.

Virbia luteilinea, Druce, Biol. Centr.-Am., Het. i. p. 143 (nec Wlk.).

Josiodes inversa, H. Edw. Pap. iv. p. 14 (1884); Kirby, Cat. Het. p. 295.

♂. Head and thorax olive-brown; neck with a few orange scales; pectus with orange stripe below wings; abdomen black,



Fig. 112.—*Virbia medarda*, ♂. 1.

with orange lateral stripes, the ventral surface olive-brown. Fore wing olive-brown with dark irroration. Hind wing orange, with black fascia on costa except at base; a terminal black band expanding towards tornus into a patch extending along vein 1

more or less towards base. Underside of fore wing with wedge-shaped orange patch occupying the cell.

♀. Fore wing with the orange patch on underside extending beyond and below the cell; hind wing in Venezuelan specimens with orange spot on termen at vein 1.

Hab. MEXICO, Vera Cruz (*Rumeli*), 2 ♂, 1 ♀, Tabasco (*H. H. Smith*), 2 ♂; GUATEMALA, Vera Paz (*Champion*), 2 ♂, 1 ♀; NICARAGUA, Chontales (*Janson*), 1 ♂; PANAMA, Bugaba (*Champion*, *J. J. Walker*), 2 ♀, Godman-Salvin Coll., Chiriqui, Cana Mines (*Tylecote*), 1 ♂; COLOMBIA, Sta. Marta, 1 ♀; VENEZUELA, 1 ♂, 1 ♀ type *mentiens*; AMAZONS; PERU, type † *parva* in Coll. Schaus. *Exp.*, ♂ 30, ♀ 42 millim.

1597. *Virbia divisa*. (Plate XLII. fig. 24.)

Phæochlæna divisa, Wlk. ii. 469 (1854); Kirby, Cat. Het. p. 399.

Head and thorax dark olive-brown; abdomen black, with lateral orange stripes, the ventral surface olive-brown. Fore wing dark olive-brown. Hind wing black, with orange fascia extending from

subcostal nervure to below median nervure and from base to near termen; a short streak on base of inner margin. Underside of fore wing with orange patch occupying the cell and dilated beyond it between veins 3 and 7.

Hab. BRAZIL, 1 ♀ type, São Paulo (*Jones*), 2 ♂. *Exp.*, ♂ 40, ♀ 56 millim.

1598. *Virbia subapicalis*. (Plate XLII. fig. 6.)

Phæochlæna subapicalis, Wlk. ii. 470 (1854); Kirby, Cat. Het. p. 400.

Bepara egaca, Wlk. xxxi. 143 (1864).

Dark olive-brown; abdomen shot with blue. Hind wing shot with blue; a large yellow subapical patch extending from just below costa to vein 2. Underside of fore wing with broad rather irregular medial orange band from just below costa to inner margin.

Hab. AMAZONS, Ega (*Bates*), 2 ♂, 2 ♀, type and type *egaca*; ECUADOR (*Buckley*), 1 ♀. *Exp.*, ♂ 32, ♀ 46 millim.

1599. *Virbia hypophæa*, n. sp. (Plate XLII. fig. 25.)

Virbia luteilinea, Druce, Biol. Centr.-Am., Het. ii. p. 405 (nec Wlk.).

♂. Head and thorax dark olive-brown; abdomen black, with orange lateral stripes. Fore wing dark olive-brown. Hind wing orange-yellow, with black terminal band expanding somewhat towards apex.

Hab. COSTA RICA, Santa Clara Valley, 1200 feet (*Zurcher*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 30 millim.

1600. *Virbia xanthopleura*.

Ptychoglène xanthopleura, Hmps. Trans. Ent. Soc. 1898, p. 243, pl. 17. ff. 1, 15.

♂. Black-brown; orange stripes below the wings and on sides of abdomen. Fore wing slightly irrorated with ochreous scales. Hind wing with orange-yellow fascia in and below cell to just beyond its extremity, and a slight streak on inner margin.

♀. Abdomen with the orange lateral stripes extending to middle; hind wing with slight orange streaks at base, in cell, and on inner margin.

Hab. GRENADA (*H. H. Smith*), 4 ♂, 2 ♀, type. *Exp.*, ♂ 30, ♀ 34 millim.

Genus ANTIOTRICHIA.

Type.

Antiotricha, Feld. Reis. Nov. p. 2 (1874), non descr. *integra*.

Proboscis fully developed; palpi porrect to just beyond frons; antennæ of female ciliated; eyes small; head and thorax clothed with rough hair; build slender; tibiæ with the spurs short, hind tibiæ with the medial spurs absent. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from

below upper angle; 7, 8, 9, 10 stalked, 10 from beyond 7; 11 from cell approximated to 10. Hind wing with vein 3 from before angle of cell; 5 from well above angle; 6, 7 on a long stalk; 8 from before middle of cell.

1601. *Antiotricha integra*.

Mennis integra, Wlk. xxxi. 181 (1864).

Antiotricha vexata, Feld. Reis. Nov. pl. 105. f. 27 (1874).



Fig. 113.—*Antiotricha integra*, ♀. 1.

♀. Head, thorax, and abdomen black; wings orange. Fore wing with narrow black borders, widening on apical area and sometimes slightly at tornus. Hind wing with the costa except towards base and the termen narrowly black.

Hab. COLOMBIA, Bogotá (*Vergara, Nolcken*), 3 ♀, type. *Exp.* 34-42 millim.

Genus *HYALOCOA*, nov.

Type, *H. diaphana*.

Proboscis aborted; palpi porrect, not reaching beyond the frons and roughly scaled; antennæ of female almost simple; head, thorax, and abdomen nearly smoothly scaled; tibiæ with the spurs moderate; wings thinly scaled. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 shortly stalked with 7, 8, 9, 10, 7 from before 10; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 from above angle; 6, 7 stalked; 8 from middle of cell.

*1602. *Hyalocoa diaphana*.

Lithosia diaphana, Eversm. Bull. Mosc. 1848 (3) p. 212; Herr.-Schäff. Schmett. Eur. vi. p. 176, f. 168; Staud. Cat. p. 56; Kirby, Cat. Het. p. 351.



Fig. 114.—*Hyalocoa diaphana*, ♀. 1.

♀. Head and thorax fuscous brown; tegulæ and front of patagia orange; abdomen orange, the 1st segment brown and segments 2, 3, 4 with dorsal brown marks. Wings semidiphanous brown.

Hab. AMURLAND, 1 ♀ in Mus. Oxon. *Exp.* 34 millim.

Genus **EPIMYDIA.**

Epimydia, Staud. Deutsch ent. Zeit., Lep. v. p. 346 (1892) Type. *dialampa*.

Proboscis aborted, minute; palpi porrect, short, and clothed with long hair; build slender; head, thorax, and abdomen clothed with long rough hair; antennæ of male with long branches rather wide apart; tibiæ with the spurs minute; hind tibiæ with medial spurs absent; wings sparsely clothed with long hair-like scales. Fore wing long and narrow, the termen obliquely curved; vein 3 from well before angle of cell; 5 from well above angle; 6 from upper angle; 7, 8, and 10 stalked, 9 absent; 11 from cell. Hind wing with veins 3, 5 from angle of cell; 4 absent; 6, 7 stalked; 8 from middle of cell.

1603. **Epimydia dialampa.**

Epimydia dialampa, Staud. Deutsch. ent. Zeit., Lep. v. p. 346, pl. 3. f. 2 (1892).



Fig. 115.—*Epimydia dialampa*, ♂. ½.

♂. Head, thorax, and abdomen black, the last with the terminal half orange; wings semidiaphanous black-brown.

Hab. SIBERIA, Kentei, 1 ♂. *Exp.* 24 millim.

Genus **EUPREPIA.**

	Type.
<i>Euprepia</i> , Ochs. Schmett. Eur. iii. p. 299 (1810).....	<i>cribraria</i> .
<i>Eulepia</i> , Curt. Brit. Ent., Lep. i. pl. 56 (1825)	<i>cribraria</i> .
<i>Coscinea</i> , Hübn. Verz. p. 168 (1827).....	<i>cribraria</i> .
<i>Spiris</i> , Hübn. Verz. p. 169 (1827).....	<i>striata</i> .
<i>Emydia</i> , Boisd. Ind. Meth. p. 39 (1829)	<i>cribraria</i> .

Proboscis aborted, minute; palpi porrect, not reaching beyond frons and clothed with rough hair; frons with long hair; antennæ of male pectinate; tibiæ with the spurs moderate; build slender. Fore wing long and narrow; vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 7, 8, 10 stalked, 9 absent; 11 from cell. Hind wing with veins 3 and 5 from angle of cell or shortly stalked, 4 absent; 6, 7 from upper angle or shortly stalked; 8 from middle of cell.

A. Hind wing orange.....	<i>striata</i> .
B. Hind wing brown or white and brown	<i>cribraria</i> .

1604. **Euprepia striata.**

Bombyx striata, Linn. Syst. Nat. i. p. 502 (1758); Bork. Eur. Schmett. iii. p. 471; Schwarz, Beitr. Nat. Ins. p. 75, pl. 11. ff. 1-4.
Bombyx grammica, Linn. Syst. Nat. i. App. p. 822 (1758); Esp. Schmett. iii. p. 350, pl. 68. ff. 5-8; id. Suppl. iii. (1) p. 21, pl. 83. f. 3; Godt. Léop. Fr. v. p. 19, pl. 42. ff. 1, 2; Steph. Ill. Brit. Ent., Haust. ii. p. 91, pl. 17. f. 3.

Phalæna processionæ, Müll. Natursystem. v. p. 662, pl. 22. f. 2 (1774).

Phalæna palladia, Fourcr. Ent. Paris. ii. p. 262 (1785).

Bombyx melanoptera, Brahm, Ins. Kalend. ii. p. 435 (1791).

Euprepia funerea, Eversm. Bull. Mosc. 1847 (3) p. 77, pl. 5. f. 5; Herr.-Schäff. Schmett. Eur. vi. p. 53, f. 167; Staud. Cat. p. 55; Kirby, Cat. Het. p. 343.

Spiris striata, var. *pallida*, Butl. Trans. Ent. Soc. 1877, p. 360.

Head orange; frons and branches of antennæ blackish; tegulæ and patagia yellow with black patches; thorax mostly black; legs streaked with black; abdomen orange, with dorsal black bands and lateral points, the ventral surface whitish with series of black spots. Fore wing orange-yellow, with black streaks in the interspaces and discoidal lunule, the streaks partially interrupted by a subterminal line of the ground-colour; a terminal black line; inner margin and cilia deep orange. Hind wing deep orange; the costal area black, connected with a large discoidal lunule; diffused black streaks on base of median nervure and vein 1; a terminal black band, narrowing to tornus and with irregular inner edge.

Ab. 1. *pallida*. Fore wing with the streaks more or less reduced.

Ab. 2. *funerea*. Hind wing with the orange reduced to streaks below end of cell.

Ab. 3. *melanoptera*. Hind wing with the cilia only orange.

Hab. EUROPE except polar region, Britain, France, Germany, Zeller Coll., Switzerland, Frey Coll., Croatia, Frey Coll., ab. *melanoptera*; ASIA MINOR; ARMENIA; SYRIA; AMURLAND, ab. *funerea*. *Exp.* 34-42 millim.

Larva. Meyr. Brit. Lep. p. 38; Barrett, Lep. Brit. ii. p. 237, pl. 69. f. 1 b.

Blackish; tubercles yellowish; hairs brown; dorsal line orange-yellow; spiracular line whitish; head black. Food-plants, grasses, *Erica*, etc. 8-5.

1605. *Euprepia cribraria*.

Bombyx cribraria, Linn. Syst. Nat. i. p. 507 (1758); Kirby, Cat. Het. p. 343.

Bombyx cribrum, Linn. Faun. Suec. p. 302 (1761); Esp. Schmett. iii. p. 353, pl. 69. f. 1; Godt. Léop. Fr. v. p. 26, pl. 43. ff. 1, 2; Curt. Brit. Ent. i. pl. 56; Steph. Ill. Brit. Ent., Haust. ii. p. 92; Staud. Cat. p. 55.

Bombyx cribrillum, Esp. Schmett. Suppl. iii. p. 47, pl. 87. ff. 2, 3 (1786).

Bombyx candida, Cyr. Ent. Neap. i. p. 5, pl. vi. f. 5 (1787); Godt. Léop. Fr. v. p. 28, pl. 43. ff. 3, 4.

Eyprepia coscinia, Ochs. Schmett. Eur. iii. p. 300 (1810); Boisd. Icones, ii. p. 91, pl. 57. ff. 1, 2; Dup. Léop. Fr. iii. p. 11, pl. i. f. 2; Herr.-Schäff. Schmett. Eur. ii. p. 150.

Bombyx colon, Hübn. Vögel u. Schmett. pl. 37 (1827); id. Eur. Schmett. ii. Bomb. ii. f. 119; Freyer, Neue Beitr. i. p. 19, pl. 9. f. 3, & ii. p. 78, pl. 140. f. 2.

Bombyx chrysocephala, Hübn. Eur. Schmett. ii. Bomb. ii. f. 251 (1827); Kirby, Cat. Het. p. 344.

Bombyx albeola, Hübn. Eur. Schmett. ii. Bomb. ii. f. 337 (1827).

Coscinia cyrilli, Hübn. Verz. p. 169 (1827).

Lithosia bifasciata, Ramb. Ann. Soc. Ent. Fr. i. p. 270, pl. 8. f. 2 (1832);

Boisd. Icones, ii. p. 93, pl. 57. f. 3; Dup. Léop. Fr. Suppl. iii. p. 7, pl. i. ff. 1, a, b; Staud. Cat. p. 55; Kirby, Cat. Het. p. 344.

Emydia rippertii, Boisd. Icones, ii. p. 94, pl. 57. f. 4 (1834); Dup. Léop. Fr. Suppl. iii. p. 13, pl. i. f. 3; Herr.-Schäff. Eur. Schmett. ii. p. 149, f. 47.

Bombyx punctigera, Freyer, Neue Beitr. ii. p. 76, pl. 140. f. 1 c (1834).

Emydia candida, Herr.-Schäff. Schmett. Eur. ii. ff. 75-78 (1846).

Euprepia inquinata, Ramb. Cat. Léop. And. p. 223 (1866).

Head and thorax white; palpi, frons, and branches of antennæ blackish; tegulæ and patagia with black spots; legs streaked with black; abdomen white, the terminal half tinged with yellow and the base with brown; dorsal, lateral, and ventral series of blackish spots. Fore wing white irrorated with black; the costal edge blackish; two subbasal blackish points; a curved antemedial series of five small diffused spots; two medial series of six or seven spots; two discoidal points; a subterminal series of nine short streaks and a terminal series of points. Hind wing brown, the cilia white. Underside of fore wing brown.



Fig. 116.—*Euprepia cribraria*, ♂. 1.

Ab. 1. *ripperti*. Fore wing suffused with black-brown.

Ab. 2. *bifasciata*. Fore wing with the first of the two medial series of spots absent.—Corsica.

Ab. 3. *punctigera*. Fore wing with the spots much reduced; hind wing largely white on inner half.

Ab. 4. *candida*. Fore wing with the discoidal and sometimes a few terminal spots only.

Ab. 5. Head with the vertex yellow, fore wing with few or no spots. (a) *chrysocephala*: fore wing white. (b) *inquinata*: fore wing yellowish white.

Hab. EUROPE except polar region, Britain, France, Germany, Zeller Coll., Switzerland, Italy, Frey Coll., Spain, Dalmatia, C. Russia, Urals; MOGADOR (*Leech*); ALGERIA; ASIA MINOR. *Exp.* 32-44 millim.

Larva. Meyr. Brit. Lep. p. 38; Barrett, Lep. Brit. ii. p. 240, pl. 69. f. 2.

Brown; tubercles black; hairs black and whitish; dorsal line pale or whitish, subdorsal line sometimes whitish; head dark brown. Food-plants, grasses, *Erica*, etc. 8-2.

Genus **HELIACTINIDIA**, nov.

Type, *H. chiquinda*.

Proboscis fully developed; palpi porrect to just beyond frons; antennæ of male bipectinate with moderate branches; build slender; tibiæ with the spurs moderate. Fore wing with vein 3 from long before angle of cell; 5 from above angle; 6 from below upper angle; 7, 8, 9, 10 stalked, 7 from before 10; 11 from cell. Hind wing with vein 3 from before angle of cell; 5 from above angle; 6, 7 stalked; 8 from before middle of cell.

- A. Fore wing with the ground-colour black.
 a. Fore wing with orange fascia below base of cell *chiguinda*.
 b. Fore wing without orange fascia below the cell *cærulescens*.
 B. Fore wing orange-yellow with the costal edge black *nigrilinea*.

1606. *Heliactinidia chiguinda*.

Bepara chiguinda, Druce, P. Z. S. 1885, p. 524, pl. 32. f. 10; Kirby, Cat. Het. p. 400.

♂. Black-brown; patagia and coxæ with orange patches; abdomen with lateral orange patches. Fore wing with orange fascia below the cell to origin of vein 2; a postmedial erect orange band



Fig. 117.—*Heliactinidia chiguinda*, ♂. †.

from just below costa to vein 1 near tornus, its inner edge indented at lower angle of cell. Hind wing orange, with the costal to middle of cell and terminal areas black-brown; more or less developed black streaks in submedian fold and on

inner area; an orange fascia on costa to beyond middle, sometimes connected at extremity with the orange area.

Hab. ECUADOR, Chiguinda (*Buckley*), 3 ♂. *Exp.* 30 millim. Type † in Coll. Druce.

1607. *Heliactinidia cærulescens*, n. sp. (Plate XLII. fig. 5.)

♀. Black, shot with brilliant blue. Fore wing with broad curved orange-yellow medial band, emitting a tooth on outer side between veins 2, 3 ending in a point before termen. Hind wing with orange-yellow medial band broader than on fore wing, emitting a tooth on outer side between veins 2 and 5 and ending obtusely before termen.

Hab. COLOMBIA, Bogotá (*Vergara*), 1 ♀ type. *Exp.* 44 millim.

1608. *Heliactinidia nigrilinea*. (Plate XLII. fig. 23.)

Spiris nigrilinea, Wlk. vii. 1678 (1856); Kirby, Cat. Het. p. 344.

Orange-yellow; palpi at tips and antennæ black; tibiæ and tarsi fuscous. Fore wing with narrow black costal fascia.

Hab. BRAZIL (*Dohrn*), 1 ♂, Espiritu Santo, 1 ♀, Leopoldville, 1 ♀. *Exp.* 42 millim. Type † in Mus. Oxon.

Genus **CYANARCTIA**, nov.

Type, *C. dama*.

Proboscis fully developed; palpi porrect, extending about the length of head; antennæ of male bipectinate with moderate branches; tibiæ with the spurs moderate. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from near angle of cell; 5 from well above angle; 6, 7 stalked; 8 from middle of cell.

- A. Fore wing with hyaline spots on medial area *dama*.
 B. Fore wing with orange postmedial band *ruscia*.

*1609. *Cyanarctia dama*.

Eupyra dama, Druce, A. M. N. H. (6) xiii. p. 170 (1894); id. Biol. Centr.-Am., Het. ii. p. 334, pl. 70. f. 24.

♂. Head, thorax, and abdomen black; tegulæ, patagia, pectus, fore coxæ, and femora with white spots; abdomen with lateral series of white points; wings shot with bronze-green. Fore wing with white point at base; two elongate hyaline spots in end of cell;



Fig. 118.—*Cyanarctia dama*, ♂. †.

a rounded spot below middle of cell, and a rounded patch composed of three spots beyond the cell between veins 4 and 7. Hind wing with two hyaline streaks in end of cell; a rounded spot below middle of cell, and two spots beyond the cell above veins 4 and 5.

Hab. MEXICO, Orizaba, Jalapa. *Exp.* 46 millim. Type in Coll. Druce.

*1610. *Cyanarctia ruscia*. (Plate XLII. fig. 14.)

Eucyane ruscia, Druce, A. M. N. H. (6) xv. p. 47 (1895).

♀. Black shot with blue. Fore wing with a slightly curved orange band with rather irregular edge from costa just beyond middle to inner margin near tornus. Hind wing with three subterminal orange spots between veins 2 and 5 and traces of a spot below vein 2.

Hab. BOLIVIA (*Garlepp*), 1 ♀ type † in Coll. Druce. *Exp.* 54 millim.

Genus **BELEMNIA**.

	Type.
<i>Belemnina</i> , Wlk. i. 211 (1854)	<i>eryx</i> .

Proboscis fully developed; palpi upturned, short, the 1st and 2nd joints broadly scaled, the 3rd somewhat porrect and dilated; antennæ bipectinate in both sexes, the apical part serrate, the shaft dilated beyond middle, the branches dilated at extremity; tibiæ with the spurs short; abdomen smoothly scaled, with slight lateral tubercles on 1st segment. Fore wing long and narrow, the costa arched towards apex, the termen obliquely rounded; vein 3 from towards angle of cell; 4, 5 separate; 6 from upper angle; 10 shortly stalked with 7, 8, 9; 11 curved. Hind wing with vein 2 from towards angle of cell; 3, 5 from angle, 4 absent; 6, 7 from upper angle; 8 from middle of cell, obsolescent towards costa.

SECT. I. Hind wing of male with the tornus produced to a pointed lobe, the inner area with fold and tuft of hair.

1611. *Belemnia eryx*.

Zygæna eryx, Fabr. Syst. Ent. p. 552 (1775); Hübn. Samml. ex. Schmett. i.; Kirby, Cat. Het. p. 170.

Sphinx inaurata, Cram. Pap. Exot. ii. pl. 140, E, F (1777); nec Sulz.

Belemnia crameri, Butl. A. M. N. H. (4) xv. p. 339 (1875); Kirby, Cat. Het. p. 170.

Belemnia obscura, Druce, A. M. N. H. (7) iii. p. 232 (1899).

♂. Black; head, thorax, and legs largely spotted and marked with golden green; abdomen with golden green maculate dorsal fascia, silvery green lateral patches on 1st three segments followed by brilliant blue patches on the next three, ventral surface with



Fig. 119.—*Belemnia eryx*, ♂. 1.

silvery green patches on 1st two segments, the edge of 2nd, the 3rd, 4th, 5th, and 6th segments crimson. Fore wing with the basal half golden green, the veins and folds on it streaked with black, its outer edge rather oblique; a postmedial crimson band from below costa to vein 3, expanding and rounded at lower extremity. Hind wing with slight green streaks below costa and on inner margin. Underside of fore wing with silvery blue-green fasciæ in and below cell and spot at upper angle; hind wing with the basal area blue-green except on inner margin, its outer edge irregular; spots at angle of cell.

Ab. 1. *crameri*. Fore wing with the postmedial crimson band more or less reduced.

The type of *obscura* has a spur from upperside of vein 4 of hind wing, ? vein 5.

Hab. BRAZIL, 3 ♂, Sta. Catherina, 1 ♂, Tapajos (*Bates*), 2 ♂; BOLIVIA (*Buckley*), type † ♂ *obscura* in Coll. Druce. Exp. 42-44 millim.

SECT. II. Hind wing of male with the tornus rounded, the inner area without fold and tuft.

- | | |
|--|---------------------|
| A. Fore wing with crimson postmedial band | <i>inaurata</i> . |
| B. Fore wing with ochreous white postmedial band | <i>ochriplaga</i> . |
| C. Fore wing without postmedial band. | |
| a. Ventral surface of abdomen with the medial segments crimson. | |
| a ¹ . Fore wing with golden-green discoidal bar..... | <i>lydia</i> . |
| b ¹ . Fore wing without discoidal bar. | |
| a ² . Fore wing with crimson bar beyond the cell on underside and sometimes also on upperside | <i>mygdon</i> . |
| b ² . Fore wing without crimson bar beyond the cell on underside | <i>aplaça</i> . |
| b. Ventral surface of abdomen without crimson | <i>alpha</i> . |

1612. *Belemnina inaurata*.

Sphinx inaurata, Sulzer, Gesch. Ins. p. 151, pl. 20. f. 4 (1776); Kirby, Cat. Het. p. 170.

Zygæna eryx, Roem. Gen. Ins. pl. 20. f. 4 (1785), nec Fabr.

Belemnina jovis, Butl. A. M. N. H. (4) xv. p. 339 (1875); Druce, Biol. Centr.-Am., Het. i. p. 78, pl. 8. f. 22; Kirby, Cat. Het. p. 170.

Black; head, thorax, and legs spotted with metallic blue; coxæ with yellowish marks; abdomen with dorsal metallic silvery blue spots almost met by subdorsal bands, the three terminal segments with complete bands, the ventral surface with part of the 2nd, the 3rd, 4th, 5th, and 6th segments crimson. Fore wing with the base silvery blue, then golden green to middle, with black streaks on the veins and in the folds, the outer edge of this area oblique; an oblique crimson band beyond the cell from below costa to above vein 3, its edges rather irregular and varying considerably in size. Hind wing often with some blue below submedian fold; cilia of



Fig. 120.—*Belemnina inaurata*, ♂. 1.

both wings white at tips. Underside of fore wing with silvery blue patch in and below cell and spot at upper angle before the crimson band; hind wing with the basal area blue except inner margin, two spots at angle of cell.

Hab. MEXICO, Misantla (*Trujillo*), 1 ♂; GUATEMALA, Vera Paz (*Champion*), 5 ♂; HONDURAS (*Blancaneaux*), 2 ♂, Godman-Salvin Coll.; PANAMA, Veragua (*Salvin*), 8 ♂, type *jovis*. Exp. 50–52 millim.

Subsp. 1. *rezia*, Druce, A. M. N. H. (6) xviii. p. 38 (1896).

Head, thorax, abdomen, and base of fore wing with the markings golden green, the postmedial crimson band broader with straighter edges, rounded below and extending to vein 3; cilia only white towards apex of fore wing.

Hab. COLOMBIA (*Kalbreyer*), 1 ♂, Bogotá (*Vergara*), 1 ♂. Type † in Coll. Druce.

1613. *Belemnina ochriplaga*, n. sp. (Plate XLIII. fig. 8.)

♂. Black; head and thorax spotted with metallic blue-green; coxæ, femora, and tibiæ with whitish patches; abdomen with dorsal and lateral series of metallic blue-green spots, the lateral spots large on 1st four segments, then reduced to points, the ventral surface with part of the 2nd, the 3rd, 4th, 5th, and 6th segments crimson, expanding into subdorsal triangular patches on the 4th, 5th, and 6th

segments. Fore wing with two blue points at base, then golden-green to middle, with black streaks on the veins and in folds, the outer edge of the green area irregular and produced on vein 1; an oblique ochreous band beyond the cell from below costa to vein 3 expanding somewhat and rounded below. Underside of fore wing with metallic blue fascia in and below cell; hind wing with a patch formed of three fasciæ on basal area and spots at the angles of cell.

Hab. BRAZIL, 3 ♂, Amazons, Prainha (*Trail*), 1 ♂ type, Pará (*Bates*), 1 ♀, Espiritu Santo, 1 ♂. *Exp.* 50 millim.

1614. *Belemnia lydia*. (Plate XLIII. fig. 11.)

Belemnia lydia, Druce, A. M. N. H. (6) xviii. p. 37 (1896).

♀. Black; head, thorax, and legs marked with golden-green; abdomen with golden-green lateral patches at base and narrow segmental cupreous-green bands, the ventral surface with part of the 2nd, the 3rd, 4th, 5th, and 6th segments crimson. Fore wing with golden-green patch on basal area from below costa to vein 1; a large quadrate discoidal spot. Hind wing with slight golden-green streak below base of costa and spot at lower angle of cell. Underside of fore wing with some golden-green below the cell; a broad discoidal band from below costa to vein 2 expanding outwardly below vein 5; hind wing with the basal half of costal area golden-green to middle of cell; a discoidal band constricted at middle.

Hab. COLOMBIA (*Kalbreyer*), 1 ♀. *Exp.* 44 millim. Type † in Coll. Druce.

1615. *Belemnia mygdon*. (Plate XLIII. fig. 9.)

Belemnia mygdon, Druce, A. M. N. H. (7) v. p. 509 (1900).

♂. Black; head and thorax with patches of brilliant metallic green; coxæ with whitish spots, legs with whitish streaks; abdomen with dorsal metallic green stripe and short subdorsal bands, the ventral surface crimson except at base and extremity. Fore wing with the basal half metallic golden-green leaving the veins black; a crimson spot just beyond the cell often present. Underside of fore wing with metallic blue fascia in and below cell with irregular outer edge; a crimson bar beyond the cell between veins 7 and 5. Hind wing with the basal half metallic blue; spots at the angles of cell, the lower connected with the basal blue area.

Hab. COLOMBIA, Cacagualito, 1500 ft. (*Smith*), 1 ♂. *Exp.* 30 millim. Type † ♂ in Coll. Druce.

1616. *Belemnia aplaga*, n. sp. (Plate XLIII. fig. 12.)

♂. Black; head and thorax spotted with golden-green; coxæ and tibiæ with yellowish spots; abdomen with dorsal and lateral series of golden-green spots, the ventral surface with part of the 2nd, the 3rd, 4th, 5th and 6th segments crimson. Fore wing with some golden-green spots at base, then cupreous-golden to middle,

with black streaks on the veins and in folds, the outer edge of the golden area oblique; cilia of both wings white at tips. Underside of fore wing silvery metallic blue to just beyond cell except on costal and inner areas; hind wing with the basal half silvery blue, its outer edge sinuous and produced to beyond angles of cell.

Hab. ECUADOR, Paramba (*Rosenberg*), 2 ♂ type. *Exp.* 44 millim.

1617. *Belemnina alpha*.

Metriophyla alpha, Druce, Biol. Centr.-Am., Het. i. p. 73, pl. 8. f. 24. (1884); Kirby, Cat. Het. p. 164.

Black; head, thorax, and legs largely marked with metallic blue; abdomen with lateral metallic blue patches at base and narrow segmental bands. Fore wing suffused with dark sap-green; some blue streaks at base; the apical area black, with ochreous white apical patch. Hind wing shot with blue; some metallic blue streaks at base below the cell, the termen whitish with larger patch at apex; cilia white. Underside of both wings with metallic blue streaks at base and small spots at angles of cell; the apex of fore wing and termen of hind wing pure white.

Hab. PANAMA, Chiriqui (*Champion*), 2 ♂ type, Godman-Salvin Coll. *Exp.* 42 millim.

Genus DIOSPAGE.

Type.

Diospage, Wlk. i. 212 (1854)..... *rhebus*.

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of female bipectinate, with moderate branches dilated at extremity; tibiæ with the spurs moderate, mid and hind tibiæ spined; abdomen with lateral tubercles at base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with vein 3 from near angle of cell; 4, 5 stalked; 6, 7 from upper angle; 8 from middle of cell.

- | | |
|---|----------------------|
| A. Underside of fore wing with crimson U-shaped postmedial band, of hind wing with subterminal band | <i>splendens</i> . |
| B. Underside with crimson postmedial band to fore wing and terminal band to hind wing. | |
| <i>a.</i> Fore wing with postmedial crimson band on upperside... | <i>chrysobasis</i> . |
| <i>b.</i> Fore wing without postmedial crimson band on upperside. | <i>cleasa</i> . |
| C. Underside of wings without crimson | <i>rhebus</i> . |

1618. *Diospage splendens*. (Plate XLIII. fig. 10.)

Belemnina splendens, Druce, A. M. N. H. (6) xv. p. 44 (1895).

♀. Black; head, tegulæ, and legs marked with silvery metallic green; thorax with golden-green; abdomen with lateral silvery blue patches, leaving a dorsal black fascia, the ventral surface with crimson bands on 3rd to 6th segments. Fore wing with the basal half suffused with golden-green, with black streaks on the veins and in interspaces; a crimson spot in cell just beyond middle; a pink postmedial band from vein 7 to 3, oblique to vein 3, then curved,

the veins crossing it black. Hind wing suffused with brilliant metallic blue; a crimson subterminal band from below costa to vein 1 expanding towards apex and at vein 2, the veins crossing it black. Underside of fore wing with some metallic blue below the cell near base, a U-shaped crimson band from middle of cell and below costa beyond middle to submedian fold; hind wing with the basal area metallic blue with irregular outer edge, the crimson subterminal band without black on the veins.

♂. Hind wing with the subterminal band reduced to small spots above veins 2 and 3 and on underside, not reaching below submedian fold; abdomen with crimson ventral patch instead of bands.

Hab. BOLIVIA, Songo (*Garlepp*), 2 ♀; PERU, Chanchamayo, 1 ♂. *Exp.* 44-46 millim. Type † in Coll. Druce.

1619. *Diospage chrysobasis*, n. sp. (Plate XLIII. fig. 13.)

♀. Black; frons metallic blue-green; palpi, vertex of head, tegulæ, pro-meso- and metathorax, pectus and legs with metallic green spots; abdomen with metallic green segmental lines not meeting on dorsum, the ventral surface crimson from 3rd segment to extremity. Fore wing with the basal half golden, leaving the veins black, its outer edge sinuous; an oblique postmedial crimson band from just below costa to vein 3; cilia white at apex. Hind wing with the basal area shot with brilliant blue; a terminal crimson band with dentate inner edge, ending just above tornus.

Hab. COLOMBIA, Bogotá, 1 ♀ type. *Exp.* 48 millim.

1620. *Diospage cleasa*.

Charidea cleasa, Druce, P. Z. S. 1883, p. 380, pl. 40. f. 3; Kirby, Cat. Het. p. 162.

♀. Head, thorax, and abdomen black-brown; frons, vertex of head, tegulæ, metathorax, and legs with patches of metallic blue-green; abdomen with metallic green patches on lateral tubercles followed by series of lateral purple patches, the ventral surface banded with scarlet except at base. Fore wing black, the basal half obscurely suffused with yellow-green; traces of the postmedial crimson band of underside. Hind wing black, with brilliant blue basal patch in and below cell; the terminal area with traces of the crimson of underside. Underside with patches of blue at base and specks at angles of cell; fore wing with broad postmedial crimson band excurved at middle; hind wing with the terminal area crimson with irregular inner edge, on costa extending to middle; veins 4, 5 on a long stalk.

Hab. COLOMBIA, Bogotá (*Chesterton*); ECUADOR, Paramba (*Rosenberg*), 1 ♂. *Exp.* 46 millim. Type † in Coll. Druce.

1621. *Diospage rhebus*.

Sphinx rhebus, Cram. Pap. Exot. iii. pl. 234, F (1779); Kirby, Cat. Het. p. 169.

♂. Black; head, thorax, and legs with patches of metallic blue-green; abdomen with golden-green dorsal stripe; lateral blue-green spots on first five segments; a ventral yellowish and blue line on 1st segment and sublateral spots on 2nd, the next four segments with crimson bands. Fore wing with a golden-green fascia on basal half in cell and two in submedian interspace; small hyaline spots



Fig. 121.—*Diospage rhebus*, ♂. 1.

between veins 3 and 5 and above and below 6. Hind wing with brilliant blue patch in and below cell with irregular outer edge. Underside of fore wing with brilliant blue fascia in and below cell; the basal half of hind wing blue with irregular outer edge, a small spot at upper angle and large spot at lower angle; veins 4, 5 on a short stalk.

Hab. BRAZIL, Upper Amazons, Olivencas (*Michelli*), 1 ♂, São Paulo. *Exp.* 44 millim.

Genus **BELEMNIASTIS**, nov.

Type, *B. whiteleyi*.

Proboscis fully developed; palpi porrect, extending as far as frons; antennæ bipectinate in both sexes, the apical part serrate, the shaft expanding somewhat beyond middle, the branches dilated at extremity; tibiae with the spurs short; abdomen smoothly scaled, with lateral tubercles at base. Fore wing with vein 3 from close to angle of cell; 5 from just above angle; 6 from below upper angle; 10 shortly stalked with 7, 8, 9; 11 free. Hind wing with veins 3, 4, 5 from angle of cell; 6, 7 from upper angle; 8 from middle of cell, not quite reaching costa.

- | | |
|--|--------------------|
| A. Fore wing with crimson postmedial band..... | <i>attidates</i> . |
| B. Fore wing with orange postmedial band | <i>trotschi</i> . |
| C. Fore wing with ochreous white postmedial band | <i>whiteleyi</i> . |

1622. *Belemniastis attidates*. (Plate XLIII. fig. 14.)

Belemnia attidates, Druce, A. M. N. H. (7) v. p. 508 (1900).

♂. Black; head and thorax marked with brilliant metallic blue; legs slightly streaked with white; abdomen with dorsal and lateral series of metallic blue spots; the ventral surface crimson except at base and extremity. Fore wing with brilliant metallic blue interrupted streak on basal area below costa, and a broader better

defined streak on inner area ; an oblique crimson bar from middle of costa to just below the cell, and a band from costa beyond middle to just below vein 3 near termen. Hind wing with broad metallic blue streak in and below cell and on inner area to near termen. Underside of fore wing suffused with metallic blue in and beyond cell to beyond extremity ; hind wing with short blue streaks on costal area ; a curved maculate postmedial band joining the long streaks on inner area.

Hab. COLOMBIA, 1 ♂, Bogotá, type† in Coll. Druce *Exp.* 48 millim.

1623. *Belemniastis trotschi*.

Belemnia trotschi, Druce, A. M. N. H. (6) xviii. p. 37 (1896) ; id. Biol. Centr.-Am., Het. ii. p. 357, pl. 72. ff. 25, 27.

♀. Black ; head, thorax, and legs with silvery blue markings ; abdomen with lateral silvery blue segmental lines, ventral surface with the 3rd, 4th, 5th, 6th, and 7th segments crimson. Fore wing



Fig. 122.—*Belemniastis trotschi*, ♂. †.

with the basal half golden-green, its outer edge rather oblique ; a broad oblique orange band beyond the cell from below costa to vein 2 near termen. Hind wing suffused with brilliant metallic blue below costa and above inner margin to beyond middle, between median nervules to near termen.

♂. Hind wing with the blue confined to basal area.

Hab. COSTA RICA (*Trötsch*), 1 ♀ type ; PANAMA, Chiriqui. *Exp.* 58 millim.

1624. *Belemniastis whiteleyi*. (Plate XLIII. fig. 15.)

Belemnia whiteleyi, Druce, Ent. M. Mag. xxv. p. 62 (1888) ; Kirby, Cat. Het. p. 170.

Black ; head and thorax spotted with silvery metallic blue and marked with golden-green ; legs striped with blue, coxæ with whitish patches ; abdomen with golden-green dorsal stripe and lateral silvery metallic blue bands, ventral surface with the 3rd, 4th, 5th, 6th, and 7th segments crimson. Fore wing with golden-green patch on basal half from below costa to vein 1, the veins and folds streaked with black ; an oblique ochreous-white band beyond the cell from vein 7 to 3 expanding and rounded below, the veins crossing it black. Hind wing shot with brilliant metallic blue to

near termen, its irregular outer edge produced at middle. Under-side of fore wing with metallic blue fascia in and below cell and spots at angles of cell; hind wing suffused with brilliant blue on costa to middle, in cell to the spots at angles and below the cell to near termen.

Hab. BR. GUIANA, type † in Coll. Druce; AMAZONS, Pebas (*Michelli*), 1 ♂. *Exp.* 50 millim.

Genus **STENOPHÆA**, nov.

Type, *S. pollinia*.

Proboscis fully developed; palpi porrect, reaching just beyond the frons; antennæ of male bipectinate, with moderate branches; tibix with the spurs moderate; abdomen with the anal tuft largely developed. Fore wing long and narrow; vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with the cell long, vein 3 from near angle, 5 from just above angle; 6, 7 from upper angle; 8 from beyond middle of cell.

- A. Abdomen orange-red with black segmental lines *pollinia*.
 B. Abdomen black-brown *salatis*.

1625. *Stenophæa pollinia*.

Ctenucha pollinia, Boisd. Lép. Guat. p. 83 (1870); Druce, Biol. Centr.-Am., Het. ii. p. 360, pl. 73. f. 8; Kirby, Cat. Het. p. 175.

♂. Head and thorax black-brown; palpi orange; back of head with two orange patches; tegulæ in front and shoulders orange;



Fig. 123.—*Stenophæa pollinia*, ♂. †.

coxæ orange; abdomen orange-red with segmental black lines expanding into a dorsal series of spots; the anal tuft tipped with crimson; lateral black stripes and a ventral band near extremity. Fore wing fuscous brown with

orange costal fascia tapering to apex; cilia yellow at tips. Hind wing brown, with hyaline streak in lower part of cell and patch below the cell extending to inner margin; the costal area tinged with yellow; cilia whitish at tips.

Hab. MEXICO, Durango City (*Becker*), 1 ♂, Godman-Salvin Coll.; HONDURAS, type in Coll. Oberthur. *Exp.* 34 millim.

1626. *Stenophæa salatis*.

Ctenucha salatis, Boisd. Lép. Guat. p. 83 (1870); Druce, Biol. Centr.-Am., Het. ii. p. 360, pl. 73. f. 5; Kirby, Cat. Het. p. 175.

♂. Dark brown; back of head with pair of orange spots; neck with some scarlet scales; shoulders orange; fore coxæ striped with orange at sides, scarlet behind; abdomen black-brown. Fore wing uniform dark brown. Hind wing black-brown, with slight hyaline

streak in lower part of cell and hyaline patch below the cell extending to inner margin.

Hab. MEXICO, Coatepec (*Brooks*), 1 ♂, Godman-Salvin Coll.; HONDURAS, type in Coll. Oberthur. *Exp.* 36 millim.

Genus **HYPOCRISIAS**, nov.

Type, *H. punctata*.

Proboscis fully developed; palpi porrect, reaching just beyond frons and fringed with long hair; frons with tufts of hair; antennæ of male bipectinate with moderate branches, of female serrate; tibiæ with the spurs long; thorax and dorsal surface of abdomen clothed with rough hair. Fore wing with vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 3 from close to angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

A. Abdomen fuscous above.

a. Hind wing with brownish terminal band *punctata*.

b. Hind wing without terminal band *minima*.

B. Abdomen orange above.

a. Fore wing with dentate postmedial band *jonesi*.

b. Fore wing without dentate postmedial band *fuscipennis*.

1627. *Hypocrisias punctata*.

Purius punctatus, Druce, Biol. Centr.-Am., Het. i. p. 100 (1884); Kirby, Cat. Het. p. 205.

Halisidota minima, Druce, Biol. Centr.-Am., Het. ii. p. 273 (part).

♂. Head and thorax brown, with fulvous-yellow patches on vertex of head, tegulæ, and patagia; legs yellow and brown; abdomen fuscous brown, the extremity and ventral surface yellow. Fore wing fulvous yellow strongly irrorated and suffused with brown, the medial area especially suffused; a curved subbasal



Fig. 124.—*Hypocrisias punctata*, ♂. $\frac{1}{2}$.

series of ochreous spots; an antemedial spot on costa or wedge-shaped patch extending to median nervure; small spots or points in and above end of cell; a postmedial series of small spots on costa and above vein 6, then obsolescent and incurved; an irregularly sinuous subterminal series of spots. Hind wing yellowish white; the veins and a discoidal lunule brown; a terminal brown band with whitish spots on it towards apex.

♀. Head, thorax, and abdomen greyer brown; fore wing with the ground-colour greyer and with hardly any yellow tinge.

Hab. GUATEMALA, Las Mercedes (*Champion*), 2 ♂ type, (*Rodriguez*) 1 ♀ Godman-Salvin Coll. *Exp.* 42 millim.

1628. *Hypocrisias minima*. (Plate XLII. fig. 26.)

Halesidota minima, Neum. Papilio, iii. p. 138 (1883); Druce, Biol. Centr.-Am., Het. ii. p. 373; Kirby, Cat. Het. p. 211.

Halesidota armillata, H. Edw. Papilio, iv. p. 76 (1884); Kirby, Cat. Het. p. 206.

Euhalesidota agelia, Druce, A. M. N. H. (6) v. p. 214 (1890); Kirby, Cat. Het. p. 209.

Pale ochreous; palpi, frons, antennæ, legs, and dorsal surface of abdomen strongly tinged with brown. Fore wing with brown subbasal and antemedial lines expanding into patches on costa, the latter conjoined to the brown medial area which has an ochreous spot on middle of costa, a small spot in end of cell, and a spot above it on costa; a nearly straight oblique postmedial series of spots and an irregular subterminal series; the termen suffused with brown. Hind wing yellowish white.

Hab. U.S.A., Arizona; MEXICO, Jalapa (*Trujillo*), 1 ♂, Jalisco (*Richardson*), 1 ♂ type *agelia*, Godman-Salvin Coll. *Exp.* 42 millim.

1629. *Hypocrisias jonesi*. (Plate XLII. fig. 8.)

Phagoptera jonesi, Schaus, P. Z. S. 1894, p. 230.

Yellowish white; palpi black, with orange spot on 1st joint; antennæ black, with the basal joint orange; tegulæ and patagia with black spots, the latter with two and the vertex of thorax with one black streak; the coxæ and upper side of femora orange with black spots, the tibiæ and tarsi black above; abdomen orange above, a lateral series of black spots and ventral series of bands. Fore wing with the veins, the fold in cell, and submedian fold streaked with black; a fuscous brown discoidal patch; a strongly dentate postmedial band expanding below vein 3 into a large patch extending to middle of wing; a broad terminal band with dentate inner edge. Hind wing with the veins slightly streaked with fuscous; some fuscous marks on termen from apex to vein 3.

Hab. BRAZIL, Castro Paraña (*Jones*), 1 ♀. *Exp.*, ♂ 54, ♀ 60 millim. Type † in Coll. Schaus.

1630. *Hypocrisias fuscipennis*. (Plate XLII. fig. 27.)

Halesidota fuscipennis, Burm. Descr. Rep. Arg. v. p. 441 (1878); Kirby, Cat. Het. p. 213.

♀. Head and thorax ochreous white; palpi black, orange at base; antennæ black, with the basal joint orange; patagia with black spot and fuscous upper edge; thorax streaked with black; fore coxæ orange with black spots, femora orange above, tibiæ and tarsi black above; abdomen orange above, the extremity and ventral surface ochreous white, lateral and sublateral series of black spots. Fore wing fuscous brown; two ochreous white streaks on costal area extending to middle, a short streak below middle, on base of vein 1 and above and below its middle; points just beyond the angles of cell, and sometimes a short streak on costa towards

apex; cilia ochreous. Hind wing with the basal half ochreous white, the veins and terminal half fuscous brown; cilia ochreous.

Hab. ARGENTINA (*Burmeister*), 2 ♀. *Exp.* 58 millim.

Genus **HELIOZONA**, nov.

Type, *H. lianga*.

Proboscis fully developed; palpi porrect to just beyond the frons; antennæ of male bipectinate with short branches, the apical part serrate, of female serrate; hind tibiæ with the medial spurs absent; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3 and 5 from near angle of cell; 6, 7 from upper angle; 8 from middle of cell.

1631. **Heliozona lianga**.

Satara lianga, Semp. Reis. Arch. Phil. ii. p. 490, pl. 55. f. 8 (1899).

Black-brown; shoulders with orange spots; abdomen with the terminal segment ventrally orange. Fore wing with broad oblique



Fig. 125.—*Heliozona lianga*, ♂. †.

orange band from costa just beyond middle to tornus, its inner edge slightly indented at median nervure and vein 1, its outer at veins 3, 2, and 1.

Hab. PHILIPPINES, E. Mindanão, 1 ♀. *Exp.*, ♂ 56, ♀ 76 millim. Types † ♂ ♀ in Coll. Semper.

Genus **NICÆA**.

Type.

Nikæa, Moore, Lep. Atk. p. 11 (1879) *longipennis*.

Proboscis fully developed; palpi porrect to just beyond the frons; antennæ of male ciliated; tibiæ with the spurs short; scaling smooth. Fore wing rather narrow and produced at apex in male; vein 3 from near angle of cell; 5 from above angle; 6 from angle of cell or stalked with 7, 8, 9, 10, 10 from beyond 7; 11 free. Hind wing with vein 3 from near angle of cell; 5 from above angle; 6 7 from upper angle; 8 from before middle of cell.

1632. **Nicæa longipennis**.

Hypercompa longipennis, Wlk. iii. 655 (1855); Butl. Ill. Het. B. M. v. p. 18, pl. 82. f. 7; Hmps. Moths Ind. ii. p. 30; Kirby, Cat. Het. p. 31.

Head and thorax black; palpi towards base, neck, and edges of

tegulae and patagia with some yellow; legs brownish; abdomen orange-yellow, with dorsal, subdorsal, sublateral, and ventral series of black spots or dorsal bands. Fore wing black; a small antemedial white spot below costa sometimes present; a medial spot below costa, an oblique bar across cell, and a rounded spot below vein 2; postmedial spots on each side of veins 3 and 6, sometimes with a small spot below costa; a subterminal spot above vein 2, and



Fig. 126.—*Nicæa longipennis*, ♀. $\frac{1}{2}$. (From Moths Ind. vol. ii.)

sometimes four points between vein 4 and costa, and a point above vein 1. Hind wing orange-yellow with some black at base, two spots on middle of costa; two large conjoined medial spots between cell and inner margin; a large discoidal lunule; the apical area black, with irregular inner edge and a white subapical spot; two large black subterminal spots between vein 3 and tornus, the upper connected with termen.

Hab. W. CHINA, Chang-yang, 2 ♂, 2 ♀, Ichang, 1 ♂, Washan, 1 ♀ (*Pratt*), Wa-ssu-kou, 1 ♀, Omei-Shán, 1 ♂, 1 ♀, Moupin (*Kricheldorf*), 1 ♂, 1 ♀; KUMAON; SIKHIM, 1 ♂, 1 ♀ (*Lidderdale*); ASSAM, Sylhet, 1 ♂ type. *Exp.* 58–70 millim.

Genus **PREPARCTIA**, nov.

Type, *P. mirifica*.

Proboscis fully developed; palpi porrect, extending about the length of head; antennae of female serrate; tibiae with the spurs moderate. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3 and 5 from close to angle of cell; 6, 7 from upper angle; 8 from middle of cell.

1633. **Preparctia mirifica**.

Chelonia mirifica, Oberth. Ét. Ent. xvi. p. 8, pl. 1. f. 7 (1892).

♀. Head black; thorax pale buff, with broad black stripes on patagia and vertex; pectus and legs black, the femora scarlet above; abdomen scarlet above, with short dorsal black bands, the ventral surface black. Fore wing pale buff; a subbasal black spot on costa; an antemedial spot conjoined to an irregular streak in cell; an oblique patch below the cell; a very oblique medial band forking at median nervure and enclosing a lunulate discoidal spot

which is connected with its outer arm; a postmedial band from costa to vein 4 angled outwards above vein 5; a triangular patch from vein 3 to below 2, and a more elongate triangular patch on inner margin; a black apical patch connected by a narrow band with a triangular patch on termen below middle extending to just



Fig. 127.—*Preparctia mirifica*, ♀. †.

above tornus. Hind wing scarlet, with medial black band not reaching inner margin; a large discoidal lunule; small spots just beyond the cell on veins 5, 3, and 2, and large subterminal spots on veins 1 and 2, and from vein 4 to 7; cilia yellow; vein 5 bifurcating before termen on both sides.

Hab. W. CHINA, Ta-chien-lu, 2 ♀. *Exp.* 68 millim.

Genus **LEPTARCTIA**.

Leptarctia, Stretch, Zyg. & Bomb. N. Am. p. 118 (1872) *Type.* *californiæ*.

Proboscis aborted; palpi porrect to well beyond frons and clothed with rough hair; antennæ of male bipectinate with moderate branches, of female serrate; eyes hairy; head, thorax, and abdomen clothed with rough hair; tibiæ with the spurs short, hind tibiæ with the medial spurs absent. Fore wing with vein 3 from close to angle of cell; 4, 5 from angle; 6 from below upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from above angle; 6, 7 from upper angle; 8 from middle of cell.

1634. *Leptarctia californiæ*.

Nemeophila californiæ, Wlk. iii. 625 (1855); French, Can. Ent. xxi. p. 222, ff. 18, 19; id. An. Soc. Ent. Fr. (6) ix. p. 497, pl. 9. f. 7; Kirby, Cat. Het. p. 276.

Lithosia decia, Boisd. Ann. Soc. Ent. Belge, xii. p. 72 (1869); French, Can. Ent. xxi. p. 224, ff. 20–21; id. Ann. Soc. Ent. Fr. (6) ix. p. 498, pl. 9. ff. 9, 10; Kirby, Cat. Het. p. 276.

Lithosia lena, Boisd. Ann. Soc. Ent. Belge, xii. p. 73 (1869); French, Can. Ent. xxi. p. 224, ff. 20–21; id. Ann. Soc. Ent. Fr. (6) ix. p. 498, pl. 9. ff. 9, 10; Kirby, Cat. Het. p. 276.

Lithosia adnata, Boisd. Ann. Soc. Ent. Belge, xii. p. 73 (1869).

Leptarctia dimidiata, Stretch, Zyg. & Bomb. N. Am. p. 123, pl. 3. ff. 7–10 (1872); French, Can. Ent. xxi. p. 222, f. 14; id. Ann. Soc. Ent. Fr. (6) ix. p. 496, pl. 9. f. 3; Kirby, Cat. Het. p. 275.

- Leptarctia stretchii*, Butl. A. M. N. H. (5) viii. p. 312 (1881); French, Can. Ent. xxi. p. 222, f. 12; id. Ann. Soc. Ent. Fr. (6) ix. p. 495, pl. 9. f. 1; Kirby, Cat. Het. p. 275.
- Leptarctia fulvofasciata*, Butl. A. M. N. H. (5) viii. p. 313 (1884); French, Can. Ent. xxi. p. 223, f. 17; id. Ann. Soc. Ent. Fr. (6) ix. p. 497, pl. 9. f. 6; Kirby, Cat. Het. p. 276.
- Leptarctia boisduvalii*, Butl. A. M. N. H. (5) viii. p. 313 (1881); French, Can. Ent. xxi. p. 222, f. 13; id. Ann. Soc. Ent. Fr. (6) ix. p. 496, pl. 9. f. 2; Kirby, Cat. Het. p. 275.
- Leptarctia latifasciata*, Butl. A. M. N. H. (5) viii. p. 313 (1881); French, Can. Ent. xxi. p. 223, f. 17; id. Ann. Soc. Ent. Fr. (6) ix. p. 497, pl. 9. f. 6; Kirby, Cat. Het. p. 276.
- Leptarctia albifascia*, French, Can. Ent. xxi. p. 223, f. 15 (1889); id. Ann. Soc. Ent. Fr. (6) ix. p. 496, pl. 9. f. 4; Kirby, Cat. Het. p. 276.
- Leptarctia occidentalis*, French, Can. Ent. xxi. p. 223, f. 16 (1889); id. Ann. Soc. Ent. Fr. (6) ix. p. 496, pl. 9. f. 5; Kirby, Cat. Het. p. 276.
- Leptarctia wrightii*, French, Can. Ent. xxi. p. 224, ff. 18, 19 (1889); id. Ann. Soc. Ent. Fr. (6) ix. p. 498, pl. 9. ff. 7, 8; Kirby, Cat. Het. p. 276.

Head, thorax, and abdomen black mixed with grey hair; white stripes above the eyes and on shoulders; femora scarlet above;



Fig. 123.—*Leptarctia californiæ*, ♂. 1/4.

abdomen with orange lateral stripes, the ventral surface whitish. Fore wing blackish suffused with grey; a short white streak on base of median nervure; obscure antemedial, postmedial, and subterminal dark lines with some orange spots on them, the two former angled on median nervure, the last irregularly dentate, the postmedial line with whitish mark on its outer edge at costa. Hind wing orange-yellow; some conjoined black streaks at base, on inner margin developed into a fascia extending to the medial band, which is interrupted in discal, and usually in submedian fold; a subterminal maculate band conjoined in places to a black terminal band extending from apex to vein 2.

Ab. 1. *lena*. Rather paler; hind wing without medial band.

Ab. 2. *fulvofasciata*. Hind wing black from base to the medial band.

Ab. 3. *decia*. Hind wing orange-red, with interrupted black medial band.

Ab. 4. *latifasciata*. Hind wing orange-red, black from base to the medial band.

Ab. 5. *dimidiata*. Hind wing wholly black or with interrupted orange-red subterminal band.

Ab. 6. Fore wing with whitish band with irregular outer edge beyond the postmedial line.

(a) *boisduvali*. Hind wing with orange postmedial band.

(b) *stretchi*. Hind wing wholly black or with slight orange-red markings.

Hab. U.S.A., Rocky Mts. and Sierra Nevada, California, Grote Coll., 2 ♂, 3 ♀, 1 ♂, 1 ♀ type, Rouge R. (*Walsingham*), 13 ♂, 17 ♀, types *fulvofasciata*, *latifascia*, *boisduvalii*, *stretchii*. *Exp.* 28-40 millim.

Genus HYPHORAIA.

	Type.
<i>Hyphoraia</i> , Hübn. Verz. p. 182 (1827)	<i>testudinaria</i> .
<i>Platartia</i> , Pack. Proc. Ent. Soc. Phil. iii. p. 109 (1864)	<i>parthenos</i> .

Proboscis aborted, small; palpi porrect to just beyond frontal tuft; eyes hairy, small, the ocelli remote from margin of eye; antennæ of male bipectinate with moderate branches, of female serrate; head, thorax, and abdomen clothed with rough hair; tibiæ with the spurs moderate. Fore wing with veins 3 and 5 from near angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3 and 5 from close to angle of cell; 6, 7 from upper angle; 8 from middle of cell.

A. Hind wing with the terminal area tinged with scarlet.

a. Fore wing with the markings whitish *lapponica*.
 b. Fore wing with the markings yellow..... *testudinaria*.

B. Hind wing with the terminal area not tinged with scarlet.

a. Tegulæ not edged with scarlet.
 a¹. Hind wing with black fascia on inner area..... *aulica*.
 b¹. Hind wing without black fascia on inner area *dejeani*.
 b. Tegulæ edged with scarlet *parthenos*.

1635. *Hyphoraia lapponica*.

Bombyx festiva, Bork. Eur. Schmett. iii. p. 191 (1790), nec Hüfn.

Bombyx lapponica, Thunb. Diss. Ent. pt. ii. p. 40, f. 7 (1791); Acerbi, Travels N. Cape, ii. p. 254, pl. ii. f. 5, iii. f. 6; Godt. Léop. Fr. iv. p. 324, pl. 34. f. 1; Boisd. Icones, ii. p. 128, pl. 59. f. 2; Rom. Mém. ix. p. 198, pl. 14. f. 8; Staud. Cat. p. 57; Kirby, Cat. Het. p. 262.

Bombyx alpina, Quens. Acerbi's Travels N. Cape, ii. p. 253, pl. 1. f. 4 (1802); Kirby, Cat. Het. p. 257.

Arctia thulea, Dalm. Anal. Ent. p. 92 (1823); Sångb. Ent. Tidskr. i. p. 92, pl. 1. f. 1; Alph. Rom. Mém. ix. p. 197, pl. 2. ff. 6, 7; Kirby, Cat. Het. p. 257.

Bombyx avia, Hübn. Schmett. Eur. ii. ff. 230, 247 (1827).

Euprepia hyperboreus, Curt. Ross 2nd Voy. App. p. 71 (1835); Staud. Cat. p. 57; Kirby, Cat. Het. p. 262.

Head, thorax, and abdomen dark red-brown; tegulæ in front and stripes on patagia grey-white; legs striped with white, the femora tinged with crimson above; stripes on sides of abdomen and anal tuft dull crimson. Fore wing dark red-brown; a white patch on base of costa and short streak on inner margin; an antemedial spot on costa and sometimes a point on vein 1; a medial patch on costa and sometimes points in submedian fold and on vein 1; a postmedial bar from costa to vein 5; a subterminal maculate band excurved between veins 6 and 4. Hind wing orange tinged with

scarlet; the basal area black-brown, sometimes extending to the discoidal lunule, and on inner area to tornus; a subterminal maculate band, sometimes interrupted and bent outwards to termen before tornus, some brown on termen at apex and middle.

Ab. 1. *thulea* ♀. Fore wing with the series of white spots more developed and complete *alpina* is probably the same species.

Hab. ARCTIC AMERICA (*Collinson*), 2 ♂, 1 ♀; LAPLAND; ALTAI SIBERIA. *Exp.* 48 millim.

Larva clothed with long brown hair.

1636. *Hyphoraia testudinaria*.

Phalæna testudinaria, Fourer. Ent. Paris, ii. p. 260 (1785); Kirby, Cat. Het. p. 262.

Bombyx maculania, Lang, Verz. Schmett. p. 91 (1789); Staud. Cat. p. 58.

Bombyx curialis, Esp. Schmett. Suppl. iii. p. 4 (1790).

Bombyx aulica, Esp. Schmett. iii. pl. 80. ff. 2, 3 (1790); nec Linn.

Bombyx civica, Hübner. Beitr. Schmett. ii. (1) p. 11, pl. 1 E. (1827), ii. (3) p. 63, pl. 2 F.; id. Eur. Schmett. ii. ff. 140, 141; Godt. Léop. Fr. iv. p. 328, pl. 34. f. 3.

♂. Head and thorax pale red-brown; antennæ tinged with scarlet; tegulæ in front, outer part of patagia, and pectus pale yellow; legs pale scarlet; abdomen orange banded with black above, the ventral surface yellowish, fulvous at extremity. Fore wing dark red-brown; subbasal, antemedial, and medial spots in



Fig. 129.—*Hyphoraia testudinaria*, ♂. $\frac{1}{2}$.

submedian fold, often conjoined; a spot in end of cell; conjoined postmedial spots above and below vein 6; a quadrate spot on vein 3, its lower extremity produced obliquely to termen where there is an orange spot on cilia; a subterminal point above vein 5 and sometimes one above 6 further from termen. Hind wing yellow, the terminal half scarlet; a waved antemedial black band; a large discoidal spot; a subterminal patch from costa to vein 4, emitting streaks to termen on the veins and two large conjoined spots towards tornus.

♀. Fore wing sometimes with antemedial spot on costa and more subterminal spots towards apex; hind wing sometimes wholly scarlet.

Hab. FRANCE, Zeller Coll., 1 ♂, 3 ♀; S. TYROL, Frey Coll., 1 ♂; ITALY, Macugnaga, 1 ♀. *Exp.*, ♂ 38, ♀ 44 millim.

1637. *Hyphoraia aulica*.

Bombyx aulica, Linn. Syst. Nat. i. p. 505 (1758); id. Faun. Suec. p. 301; Esp. Schmett. iii. p. 328, pl. 65. ff. 6, 7; Hübner. Eur. Schmett. ii. f. 139; Godt. Léop. Fr. iv. p. 331, pl. 34. f. 4; Staud. Cat. p. 57; Kirby, Cat. Het. p. 261.

♂. Head and thorax dark red-brown; tegulæ in front and base of patagia with yellowish patches; pectus pale yellow; legs whitish, the femora orange above; abdomen yellowish, dorsally banded with brown, the anal tuft fulvous. Fore wing dark red-brown; subbasal, antemedial, and medial yellow spots in submedian fold, the first two sometimes conjoined; a spot in end of cell; two spots beyond the cell above and below vein 6; a spot above vein 3 and an oblique streak below it extending to termen, where there is an orange spot on cilia; a subterminal spot above vein 5. Hind wing orange; the basal area black with an orange spot below the cell, its outer edge angled below the cell and extending to tornus; a large discoidal patch extending to costa; a terminal patch from apex to vein 4, sometimes with orange spots on termen and two large conjoined spots towards tornus.

♀. Abdomen more orange; fore wing sometimes with more spots developed towards apex.

Hab. EUROPE, C. & E., Zeller and Frey Colls., Hungary, Finland, Russia; PONTUS; ARMENIA; ALTAI; AMUR. *Exp.*, ♂ 36, ♀ 44 millim.

*1638. *Hyphoraia? dejeani*.

Chelonia dejeani, Godt. Léop. Fr. iv. p. 326, pl. 34. f. 2 (1822); Boisd. Icones, ii. p. 127, pl. 60. f. 3; Staud. Cat. p. 58; Kirby, Cat. Het. p. 262.

♀. Head and thorax red-brown; antennæ black; front of tegulæ and outer edge of patagia ochreous; abdomen orange, with dorsal series of short black bands, a streak on last two segments, and lateral series of small spots. Fore wing red-brown, with slight antemedial ochreous streak below costa and point at lower angle of cell; an irregular fascia below the cell, emitting a spur to origin of vein 2 and bent upwards at extremity to an oblique postmedial band between vein 6 and submedian fold; small subterminal spots on veins 7, 5, 4. Hind wing orange, with large black median lunule from middle of cell to below vein 1; a discoidal lunule; a subterminal maculate band from below costa to vein 3 and spots on veins 2 and 1.

Hab. SPAIN, C. & S. mountains. *Exp.* 54 millim. This species is unknown to me.

1639. *Hyphoraia parthenos*.

Arctia parthenos, Harr. Agassiz's Lake Superior, p. 390, pl. 7. f. 4 (1850); Kirby, Cat. Het. p. 257.

Arctia borealis, Möschl. Wien. ent. Mon. iv. p. 330, pl. 9. f. 3 (1860); Staud. Cat. p. 57; Kirby, Cat. Het. p. 257.

Head and thorax red-brown; palpi at base, vertex of head, neck, and tegulæ behind crimson; yellow stripes on tegulæ and patagia;

pectus and legs crimson and brown; abdomen orange, the dorsum black except at extremity, the anal tuft and ventral surface tinged with crimson. Fore wing red-brown; a yellow streak in base of submedian fold; a small spot sometimes present on costa near base; an antemedial spot on costa and a spot in submedian fold, a medial spot on costa with another below it in cell; postmedial spots on costa, above vein 5 and above and below vein 2; a subterminal series of small spots bent outwards below vein 6. Hind wing orange; the area to just beyond cell black, with orange streaks in basal part of cell and submedian fold and spot in end of cell; a subterminal band with waved edges, sometimes not reaching costa.

Hab. CANADA, Labrador, Anticosti I., 1 ♀ Grote Coll., Lake Superior, Mackenzie R. (*Sir J. Richardson*), 1 ♀. *Exp.*, ♂ 56, ♀ 70 millim.

Genus LAORA.

Type.

Laora, Wlk. vi. 1482 (1855) *antennata*.

Proboscis aborted; palpi porrect, the 2nd joint reaching as far as the frontal tuft and clothed with long hair, the 3rd long and smoothly scaled; head, thorax, and abdomen clothed with long hair; antennæ of male bipectinate, with long branches; tibiæ with the spurs moderate. Fore wing rather narrow; vein 3 from long before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 3 from before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

1640. *Laora antennata*.

Laora antennata, Wlk. vi. 1482 (1855); Kirby, Cat. Het. p. 275.



Fig. 130.—*Laora antennata*, ♂. †.

♂. Dark reddish brown; shoulders and base of abdomen with some yellowish hair; femora fulvous yellow above. Hind wing with the interspaces pale; some yellowish hair in discal and submedian folds and on inner margin.

Hab. COLOMBIA, Bogotá, 2 ♂ type. *Exp.* 38 millim.

Genus OCNOGYNA.

Type.

<i>Trichosoma</i> , Ramb. Ann. Soc. Ent. Fr. i. p. 272 (1832); nec	
Rud. Vermes, 1819	<i>parasita</i> .
<i>Ocnogyne</i> , Led. Verh. zool.-bot. Ges. Wien, ii. p. 78 (1852) ...	<i>parasita</i> .
<i>Pachylischia</i> , Ramb. Cat. Léop. And. ii. p. 240 (1866)	<i>corsica</i> .
<i>Nototrachus</i> , Ramb. Cat. Léop. And. ii. p. 245 (1866)	<i>pierrei</i> .
<i>Artimelia</i> , Ramb. Cat. Léop. And. ii. p. 248 (1866)	<i>latreilli</i> .
<i>Somatrichia</i> , Kirby, Cat. Het. p. 274 (1893)	<i>parasita</i> .
<i>Tancrea</i> , Pungeler, Soc. Ent. xiii. p. 57 (1898)	<i>pardalina</i> .

Proboscis aborted: palpi porrect, extending as far as frons and clothed with very long hair; head, thorax, and abdomen clothed with long hair; antennæ of male bipectinate with rather long branches, of female with short branches; fore tibiæ with a large claw on inner side at extremity and short claw on outer; hind tibiæ with the medial spurs absent. Fore wing with vein 3 from near angle of cell; 5 from above angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from above angle; 6, 7 from upper angle; 8 from before middle of cell. Female with the wings more or less aborted.

- A. Hind wing crimson or tinged with crimson.
 a. Fore wing black with whitish bands.
 a^1 . Femora scarlet above *loewi*.
 b^1 . Femora black..... *latreilli*.
 b. Fore wing ochreous with blackish bands..... *banghaasi*.
 B. Hind wing orange or yellow.
 a. Fore wing blackish with yellow bands.
 a^1 . Head, thorax, and abdomen ochreous white *pardalina*.
 b^1 . Head, thorax, and abdomen black *corsica*.
 b. Fore wing black with brownish bands..... *pretiosa*.
 c. Fore wing grey or reddish brown.
 a^1 . Fore wing with irregular yellowish-white spots *pierreti*.
 b^1 . Fore wing without spots *huguenini*.
 C. Hind wing with the ground-colour white.
 a. Fore wing with the postmedial line strongly angled outwards at middle..... *bœtica*.
 b. Fore wing with the postmedial line oblique ... *clathrata*.
 D. Hind wing brown or fuscous.
 a. Fore wing with series of black spots.
 a^1 . Fore wing bright red-brown *pudens*.
 b^1 . Fore wing dark brown *lepieuri*.
 c^1 . Fore wing pale grey-brown.
 a^2 . Fore wing of male with black spots in inner half... *parasita*.
 b^2 . Fore wing of male without spots on inner half..... *nogelli*.
 b. Fore wing without black spots *jelski*.

1641. *Ocnogyna loewi*.

Trichosoma loewii, Zell. Stett. ent. Zeit. vii. p. 9 (1846); Staud. Cat. p. 59; Kirby, Cat. Het. p. 273.

♀. Fuscous black; head and thorax not hairy; palpi rather long; fore coxæ at sides and the femora above except at extremity scarlet. Fore wing black, with whitish medial band with black costal spots on it; the costa towards apex and termen pinkish white. Hind wing crimson, brownish towards base; the wings much aborted.

Hab. ASIA MINOR, Istenas Valley, 1 ♀ type.

1642. *Ocnogyna latreilli*.

Chelonia latreilli, Godt. Léop. Fr. iv. p. 318, pl. 33. f. 1 (1822); Boisd. Icones, ii. p. 124, pl. 59. f. 5; Herr.-Schäff. Schmett. Eur. ii. p. 146, ff. 66, 67, 118; Staud. Cat. p. 58; Kirby, Cat. Het. p. 265.

♂. Head, thorax, and abdomen black mixed with grey hair; tibiæ and tarsi whitish; abdomen with yellowish hair at sides and ventral bands. Fore wing black; an antemedial white line oblique from costa to the submedian fold, where it is angled and connected

by a fascia with the postmedial line; a somewhat triangular patch from middle of costa to submedian fascia; the postmedial line angled at vein 4, then oblique; the subterminal band angled outwards at vein 5, then inwards to postmedial band and outwards again to termen above tornus. Hind wing crimson, with black discoidal lunule and terminal band interrupted at vein 3 and hardly reaching tornus.

♀. Head, thorax, and abdomen without grey and yellow hair; wings more or less aborted; fore wing with the markings tinged with red; hind wing with the terminal band sometimes broken up into spots.

Hab. SPAIN, mountains, 1 ♂, 2 ♀, Zeller Coll. *Exp.* 30 millim.

***1643. *Ocnogyna banghaasi*.**

Arctia banghaasi, Staud. Iris, viii. p. 291, pl. v. f. 10 (1895).

♂. Grey-brown, palpi and branches of antennæ blackish; femora crimson above; abdomen black above with subdorsal crimson fasciæ, lateral and sublateral black spots, the ventral surface brown. Fore wing grey-brown splotched with brown; a blackish patch at base of inner area sometimes present; an antemedial blackish band angled below the cell; a discoidal spot with an oblique band from it to inner margin; a postmedial band of confluent dentate spots; a subterminal series of dentate spots. Hind wing crimson; a large black discoidal lunule; a subterminal maculate blackish band interrupted at vein 1; the termen and cilia brown, with a series of black points between apex and vein 3. Fore wing often with the markings obsolescent and reduced; hind wing sometimes with hardly a trace of crimson.

Hab. SYRIA, Akbes, in Coll. Oberthur. *Exp.* 36 millim.

1644. *Ocnogyna pardalina*. (Plate XLII. fig. 19.)

Tancrea pardalina, Pungeler, Soc. Ent. xiii. p. 57 (1898).

♂. Head, thorax, and abdomen ochreous white; tegulæ, patagia, and thorax with blackish stripes; abdomen with blackish bands; wings ochreous yellow. Fore wing with obliquely-placed subbasal black spots below costa and above vein 1; antemedial and postmedial irregular patches from costa to below cell, connected by a subcostal streak and almost conjoined to a quadrate patch on middle of inner margin; the postmedial patch angled outwards beyond lower angle of cell; an irregular band with waved edges from costa before apex to termen at vein 4; a spot at apex and a subterminal patch from vein 3 to inner margin. Hind wing with blackish streaks on median nervure, vein 1, and inner margin; a discoidal lunule; a large apical patch and a subterminal band with waved edges from vein 4 to inner margin.

Hab. C. ASIA, Kungese, 1 ♂. *Exp.* 32 millim.

1645. *Ocnogyna corsica*.

Trichosoma corsicum, Ramb. Ann. Soc. Ent. Fr. i. p. 272, pl. 8. f. 6 (1832); Boisd. Icones, Lép. ii. p. 119, pl. 60. ff. 7, 9; Dup. Lép. Fr. Suppl. iii. p. 61, pl. 4. ff. 6a, b; Freyer, Neue Beitr. ii. p. 87, pl. 146. f. 3; Geyer, Eur. Schmett. ff. 347, 348, 352; Staud. Cat. p. 58; Kirby, Cat. Het. p. 274.

Ocnogyna corsica, var. *sardoa*, Staud. Berl. ent. Zeit. xiv. p. 105 (1870).

Ocnogyna corsica, var. *albifascia*, Const. Ann. Soc. Ent. Fr. (6) viii. p. 161, pl. iv. f. 1. (1888).

♂. Black; head, thorax, and abdomen with some grey hair; shaft of antennæ yellow above; extremity of tibiæ and tarsi yellow; abdomen with yellow segmental lines on ventral surface. Fore wing with ochreous-white markings, becoming orange at margins; waved subbasal and antemedial bands connected in submedian fold and obsolescent towards inner margin; a medial waved band somewhat angled on median nervure and connected in submedian fold with the postmedial waved band, which is angled at vein 4, then incurved; the subterminal band interrupted in places, angled inwards below costa, outwards to near termen above vein 5, then inwards to postmedial band at vein 4 and to termen at vein 2; cilia with some orange points. Hind wing orange, with black fasciæ below the cell and on vein 1; a discoidal spot; a large subterminal spot from costa to vein 4, and a maculate band on apical part of termen.

♀. Wings aborted, small; fore wing with the markings more diffused; hind wing orange, with some black spots on termen.

Ab. 1. *sardoa*. Hind wing with the fasciæ reduced to spots; female with the wings more developed.—Sardinia.

Ab. 2. *albifascia*. The orange areas replaced by dirty white.

Hab. CORSICA, 6 ♂, 2 ♀, Frey Coll.; SARDINIA, 2 ♂, 2 ♀, Zeller Coll. Exp., ♂ 28, ♀ 16 millim.

Larva. Pale, mottled with red-brown; the warts with tufts of plumose hair; the hair from warts of first four and last two somites black on dorsum, pale fulvous on medial somites, the hair from lateral warts white, from sublateral and ventral warts black; head red-brown.

*1646. *Ocnogyna pretiosa*.

Arctia pretiosa, Staud. Rom. Mém. iii. p. 192, pl. 11. f. 4 (1887); Kirby, Cat. Het. p. 265.

♀. Head and thorax brownish grey; antennæ black; tegulæ with black spots at sides and middle; patagia with black streaks at extremity; thorax with black patch; abdomen orange, with dorsal black fascia on basal segments followed by a short band, then a triangular spot. Fore wing black; a brownish-grey antemedial band, angled on median nervure, emitting fasciæ to base on costa, median nervure, and inner margin, and a fascia to the postmedial band on median nervure; an oblique fascia from middle of costa to lower angle of cell; a postmedial band, excurved from costa to lower angle of cell, then slightly incurved; a subterminal dentate

band angled inwards to the postmedial band below costa and at veins 5 and 2 and outwards to termen at veins 6, 4, and 1; cilia brownish grey. Hind wing orange, with black spots at base, in cell, and on inner margin; a discoidal spot; a subterminal bar from below costa to vein 5 and another from vein 4 to near tornus.

Hab. AMURLAND, Raddefka. *Exp.* 30 millim. This species is unknown to me.

***1647. *Ocnogyna pierreti*.**

Trichosoma pierreti, Ramb. Bull. Soc. Ent. Fr. x. p. xxvii, pl. 5. f. 1 (1841); Oberth. Ét. Ent. vi. p. 72, pl. 2. ff. 8, 9; Kirby, Cat. Het. p. 273.

Trichosoma mauritanica, Lucas, Expl. Alg., Zool. iii. p. 376, pl. 3. f. 5 (1849); Kirby, Cat. Het. p. 274.

Trichosoma atlanticum, Lucas, Ann. Soc. Ent. Fr. (3) i. p. 412, pl. 13 (2). f. 2 (1853); Kirby, Cat. Het. p. 274.

Trichosoma gandolphei, Oberth. Ét. Ent. vi. p. 71, pl. 2. f. 7 (1881); Kirby, Cat. Het. p. 275.

♂. Head, thorax, and abdomen blackish, clothed with long ochreous and greyish hair; femora orange-red above. Fore wing dull reddish brown; a pale ochreous streak on base of inner margin; another below base of cell expanding into an antemedial clavate mark and joined by an oblique line from costa; a spot on middle of costa expanding into a rounded patch in end of cell; an oblique postmedial bar from costa to vein 4, and an oblique bar from vein 3 to 1 dentate on outer side; an oblique bar from costa to vein 6 before apex; subterminal points above and below vein 6 and an oblique spot above vein 2. Hind wing orange; a blackish streak below median nervure and another on vein 1 expanding into a terminal spot; a terminal band from apex to vein 4 followed by a large spot; underside with the costal area whitish, with black spots at base and middle.

Ab. 1. *gandolphei*. Fore wing with the markings reduced, no streak on base of inner margin or line from costa, the medial spot almost absent; the lower postmedial bar reduced to a curved spot below vein 2; the terminal area unmarked except for a small spot on costa before apex; hind wing with black discoidal point or lunule.

Ab. 2. *atlantica*. Fore wing with all the spots present but small.

Ab. 3. *mauritanica*. Fore wing with the spots reduced to a triangular spot below middle of costa and a point beyond upper angle of cell.

Hab. ALGERIA, Bône, type † *gandolphei* in Coll. Oberthur. *Exp.* 34 millim.

***1648. *Ocnogyna huguenini*.**

Trichosoma huguenini, Oberth. Ét. Ent. iii. p. 42 (1878); Mill. Ann. Soc. Linn. Lyon, xxv. p. 10, pl. 125. f. 10; Kirby, Cat. Het. p. 275.

♂. Head, thorax, and abdomen black clothed with grey hair, tinged with ochreous on head. Fore wing dull reddish brown.

Hind wing pale orange-yellow; a black discoidal point; broad blackish fasciæ on costa, below median nervure, and on vein 1; a broad terminal band enclosing a yellow terminal spot in submedian fold.

Hab. ALGIERS (*Armand David*), type † ♂ in Coll. Oberthur.
Exp. 28 millim.

1649. *Ocnogyna bætica*.

Trichosoma bætica, Ramb. Ann. Soc. Ent. Fr. v. p. 587, pl. 17 A. ff. 1-4 (1836); id. Faun. And. ii. pl. 14. ff. 1-4; Dup. Léop. Fr. Suppl. iii. p. 64, pl. 4. ff. 7 a, b; Herr.-Schäff. Schmett. Eur. ii. p. 141. f. 11; Freyer, Neue Beitr. iv. p. 41, pl. 313. f. 4; Staud. Cat. p. 59; Kirby, Cat. Het. p. 274.

♂. Black; head, thorax, and abdomen clothed with long grey hair tinged with ochreous on head. Fore wing with subbasal yellowish-white point and antemedial and medial spots below costa; a fascia in submedian fold; a postmedial sinuous band, oblique towards costa, excurved between veins 5 and 3, then inwardly oblique and terminating at submedian fascia; an oblique bar from costa before apex sometimes connected with the postmedial band; an oblique streak from postmedial band at vein 3 to termen; a terminal series of points sometimes with spot above vein 5. Hind wing white; a medial black band strongly angled beyond lower angle of cell, emitting a streak toward base below the cell and ending at submedian fold; the terminal area black with irregular inner edge, partially intercepted by white between veins 3 and 4 and emitting a streak towards base on inner area; a short oblique streak on termen above vein 1; cilia white and black.

Hab. SPAIN, 3 ♂; TUNIS (*Eaton*), 1 ♂. *Exp.* 32 millim.

*1650. *Ocnogyna clathrata*.

Ocnogyna clathrata, Led. Verh. zool.-bot. Ges. Wien, v. p. 202, pl. 2. f. 7 (1855); Staud. Cat. p. 59; Kirby, Cat. Het. p. 273.

Trichosoma loewii, Herr.-Schäff. Neue Schmett. p. 32, ff. 164, 165 (1864); nec Zeller.

Trichosoma loewii, var. *armena*, Staud. Cat. p. 59; Led. Ann. Soc. Ent. Belge, xiii. p. 32, pl. 1. f. 8 (1870).

Ocnogyna herricki, Staud. Hor. Soc. Ent. Ross. xiv. p. 337 (1878); Kirby, Cat. Het. p. 273.

Ocnogyna herricki, var. *pallidior*, Christ, Rom. Mém. i. p. 109, pl. 7. f. 1 a, b (1884).

♂. Head and thorax brownish grey, with blackish marks on vertex of head, tegulæ, patagia, and thorax; abdomen brown, greyish at sides. Fore wing brown, with whitish streak on base of costa; a triangular or oblique bar-shaped spot on middle of costa; a fascia in submedian interspace extending to termen; a somewhat sinuous oblique postmedial line; the subterminal line angled outwards to near termen at vein 5, then inwards to postmedial line at vein 4, outwards to termen at vein 2, and inwards to the submedian fascia; cilia white. Hind wing white, with oblique brown band

from costa to lower angle of cell irregular on outer side; a large subterminal spot below costa and terminal spots on veins 2 and 1; underside with basal brown patch on costa.

Ab. 1. *armena*. Hind wing with the subterminal spots conjoined into a maculate band from costa to vein 2 and extending to termen at apex and middle.

Ab. 2. *herricki*=*loewi*, H.-S. nec Zell. Fore wing blacker; a pale spot in lower end of cell instead of the costal mark; hind wing with the oblique band reduced to a discoidal point; a complete terminal band indented at middle and above vein 1; inner area blackish. ♀ almost entirely black.

Ab. 3. *pallidior*. Head, thorax, and abdomen yellowish brown without markings; fore wing with the markings ochreous; two streaks in cell instead of the costal markings, the postmedial line and submedian fascia straighter; the veins of inner and terminal areas streaked with ochreous; hind wing ochreous white, with fuscous point at upper angle of cell; five elongate subterminal spots and some points on termen.—Askhabad. This may be a distinct species.

Hab. ASIA MINOR; SYRIA; ARMENIA; CAUCASUS. *Exp.* 38 millim. This species is unknown to me.

Larva of *pallidior* violaceous grey; dorsal area blackish with white dorsal line; subdorsal area ferruginous, with fine dark brown streaks on and below its lower edge; a lateral series of streaks; hair ferruginous on dorsal area, dark brown on lateral; head and legs dark brown.

*1651. *Ocnogyna pudens*.

Trichosoma pudens, Lucas, Ann. Soc. Ent. Fr. (3) i. p. 410, pl. 33 (2). f. 1 (1853); Ramb. Cat. Lép. And. p. 239, pl. 4. f. 2; Kirby, Cat. Het. p. 246.

Spilosoma vaillantini, Austaut, Le Nat. 1894, p. 55.

♂. Head yellowish brown; palpi and antennæ black, the base of shaft scarlet; thorax red-brown; legs scarlet above, the extremities of tibiæ and tarsi black; abdomen yellow-brown, the subdorsal area tinged with scarlet, a dorsal series of slight black bands. Fore wing bright red-brown; antemedial, medial, and postmedial curved maculate black lines, the 1st interrupted above inner margin, the 2nd in cell and submedian fold, the 3rd with separate spots in its medial part; a subterminal spot on costa, a spot below vein 5, and three points towards inner margin; two spots on cilia at apex and three at middle. Hind wing dark brown, with antemedial, postmedial, and subterminal black spots on costa, a subterminal spot on vein 5, a wedge-shaped patch from below end of cell to near termen and another on inner area from base to termen; two points on middle of cilia.

Ab. 1. Wings with the black markings much reduced.

Hab. SPAIN; ALGERIA, Bône (*Olivier*), in Coll. Oberthur. *Exp.* 34 millim.

*1652. *Ocnogyna leprieuri*.

Spilosoma leprieuri, Oberth. Ét. Ent. iii. p. 43, pl. 5. f. 2 (1878); Kirby, Cat. Het. p. 246.

♂. Head and thorax red-brown; palpi, lower part of frons, and antennæ black, the last with the base of shaft crimson; femora above and tibiæ and tarsi except at extremities crimson; abdomen fulvous yellow, with black dorsal and sublateral stripes. Fore wing dark brown, thinly scaled, the costa and inner margin redder brown and thickly scaled; antemedial and medial black spots on costa, median nervure, and inner margin; a spot at lower angle of cell, with a triangular spot on costa above it; a postmedial triangular spot on costa, points on veins 5 to 2, and spot on inner margin; subterminal points on vein 5 and inner margin. Hind wing dull brown, with obscure blackish spots at angles of cell, subterminal spots on costa and below vein 5, and diffused streaks below the cell and on inner area; cilia blackish.

♀. Uniform black-brown, except the crimson on antennæ and legs; wings very small.

The tibial claw in this species is very minute.

Hab. ALGERIA, Philippeville (*Olivier*), types † ♂ ♀ in Coll. Oberthur. *Exp.* ♂ 30 millim.

Perhaps a subspecies or variety of *O. pudens*.

1653. *Ocnogyna parasita*.

Bombyx parasita, Hübn. Beitr. Schmett. ii. (2) p. 42, pl. 2. f. 1 (1790); id. Eur. Schmett. ii. ff. 146, 228; Esp. Schmett. iii. Suppl. p. 73, pl. 92. ff. 1-7; Godt. Léop. Fr. iv. p. 347, pl. 36. ff. 1, 2; Freyer, Neue Beitr. iii. p. 5, pl. 194; Friv. Magyar Tud. Akad. Erkön. xi. (4) p. 147, pl. 4. ff. 7 a-c; Boisd. Icones, Léop. ii. p. 121, pl. 60. ff. 5, 6; Staud. Cat. p. 59; Kirby, Cat. Het. p. 274.



Fig. 131.—*Ocnogyna parasita*, ♂. 1.

♂. Grey-brown; palpi, antennæ, and ill-defined stripes on tegulæ, patagia, and thorax black; abdomen with some black hair; pectus, legs, and ventral surface of abdomen blackish. Fore wing with medial black pale-edged spots on costa, median nervure, and vein 1, sometimes connected with the base by streaks; postmedial elongate spots on costa and veins 5 and 2; cilia pale at tips. Hind wing rather paler or tinged with black; diffused fuscous subterminal spots sometimes present on veins 7, 5, and 2; cilia whitish at tips.

♀. Abdomen blackish, with subdorsal brownish segmental bands; wings partially aborted and reduced; fore wing with antemedial black spots below costa and on vein 1 and terminal spots below apex and at middle; hind wing with medial black spot on costa and subterminal spots on veins 7, 4, and 2.

Hab. AUSTRIA, Valais; HUNGARY, 5 ♂, 3 ♀, Zeller and Frey Colls.; BULGARIA. *Exp.*, ♂ 38, ♀ 24 millim.

*1654. *Ocnogyna nogelli*.

Ocnogyna nogelli, Led. Ann. Soc. Ent. Belge, ix. pp. 62-77, pl. 3. ff. 3-6 (1865); Kirby, Cat. Het. p. 274.

♂. Pale grey-brown; vertex of head, upper edge of tegulæ, and patches on thorax and abdomen ochreous. Fore wing with fuscous antemedial and medial bands with waved edges from costa to median nervure; a postmedial spot on costa; a terminal shade; cilia pale. Hind wing with subterminal fuscous spot below costa; cilia pale.

Ab. 1. More whitish brown; thorax with more ochreous.

♀. Head and thorax browner, the vertex of head, edges of tegulæ and patagia, and patch on thorax grey; fore wing grey-brown, with basal brown patch, antemedial band, medial band narrowing to inner margin, large postmedial spot on costa, and small spots on veins 2 and 1; spots at apex and middle of termen; hind wing with medial band and band from costa before apex narrowing to tornus.

Hab. ASIA MINOR, Kisilgye-Aolé. *Exp.*, ♂ 34, ♀ 26 millim. This species is unknown to me.

Larva pale dull brown striated with black, with pale dorsal and subdorsal lines, the latter with orange points; ventral surface pale greenish; warts pale, with sparse tufts of hair.

1655. *Ocnogyna jelski*.

Arctia jelski, Oberth. Ét. Ent. vi. p. 33, pl. 10. f. 3 (1881); Kirby, Cat. Het. p. 276.

♂. Head, thorax, and abdomen black-brown; the anal tuft with some orange hair at sides; wings thinly clothed with black-brown hairy scales, the veins and margins more thickly scaled; slight discoidal lunules; cilia pale at tips.

Hab. PERU, type ♂ in Coll. Oberthur, Oroya (*Simons*), 1 ♂. *Exp.* 26 millim.

Genus PHRAGMATOBIA.

	Type.
<i>Phragmatobia</i> , Steph. Ill. Brit. Ent., Haust. ii. p. 73 (1828) ...	<i>fuliginosa</i> .
<i>Chelis</i> , Ramb. Cat. Léop. And. ii. p. 256 (1866)	<i>maculosa</i> .
<i>Neoarctia</i> , Neum. & Dyar, Ent. News Philad. iv. p. 141 (1893).	<i>beani</i> .

Proboscis aborted, minute; palpi porrect, reaching as far as or to just beyond frontal tuft and clothed with long hair; of female with very short branches; eyes very small; head, thorax, and abdomen clothed with rough woolly hair,

the head retracted; tibiæ with the spurs short. Fore wing with vein 3 from close to angle of cell; 4, 5 from angle or 5 above angle; 6 from upper angle or stalked with 7; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 from above angle; 6, 7 from upper angle or stalked; 8 from middle of cell.

In one specimen of *N. casta*, there is a bar between veins 6, 7 of fore wing, and vein 7 of hind wing forks before the apex.

SECT. I. (*Chelis*). Antennæ of male bipectinate, with moderate branches.

A. Female with the wings aborted, small.

1656. *Phragmatobia zoraida*.

Chelonia zoraida, Grasl. Ann. Soc. Ent. Fr. (2) v. p. 561, pl. 17. f. 3 (1836); Dup. Lép. Fr. Suppl. iii. p. 54, pl. 4. f. 4; Herr.-Schäff. Schmett. Eur. ii. p. 144, f. 92; Ramb. Cat. Lép. And. ii. p. 257, pl. 4. f. 1; Staud. Cat. p. 59; Kirby, Cat. Het. p. 273.

♂. Head black, palpi and sides of frons blackish; thorax and abdomen blackish, with some brown on edges of tegulæ and patagia, on legs and sides and ventral surface of abdomen; femora crimson above. Fore wing pale reddish brown; a black spot on base of costa; two antemedial spots from costa to median nervure sometimes conjoined, and a double spot on vein 1; a postmedial triangular spot on costa, sometimes with an excurved line from it to vein 2, and a spot on vein 1; a subterminal spot on costa, with two small conjoined spots below its outer extremity. Hind wing with a dusky tinge; a black discoidal point and subterminal points below costa and on veins 5 and 2.

♀. Fore wing with the black markings reduced; abdomen brown, with dorsal black band and sublateral spots.

Hab. SPAIN, Sierra del Alfakar, in Coll. Oberthur. *Exp.*, ♂ 30, ♀ 20 millim.

Subsp. 1. *hemigena*, Grasl. Ann. Soc. Ent. Fr. (2) viii. p. 402, pl. 10. ff. 9-11 (1850); Herr.-Schäff. Schmett. Eur. vi. p. 52, ff. 156-157; Staud. Cat. p. 59; Kirby, Cat. Het. p. 273.

♂. Redder brown; vertex of head brown.

♀. Fore wing with the antemedial and medial costal patches confluent.

Hab. PYRENEES, 2 ♂, 2 ♀, Zeller and Frey Colls.

A hybrid "*zoragena*" between the two forms has been bred in captivity.

B. Female with the wings not aborted.

a. Fore wing with the subterminal line angled inwards at vein 4.

a¹. Fore wing with a fascia in the submedian fold.

a². Fore wing with the submedian fascia extending to subterminal line.

a³. Fore wing with costal fascia.

a⁴. Hind wing crimson or tinged with crimson; abdomen not yellow at extremity *maculosa*.

b⁴. Hind wing grey-brown; abdomen yellow at extremity *rupicola*.

- b³. Fore wing without costal fascia.
 a⁴. Fore wing with antemedial and postmedial lines.
 a⁵. Fore wing with a medial line from costa to submedian fascia *kindermannii*.
 b⁵. Fore wing with medial patch in cell only.
 a⁶. Hind wing scarlet with subterminal black spots *glaphyra*.
 b⁶. Hind wing orange with terminal black band interrupted at middle *postflavida*.
 b⁴. Fore wing without antemedial and postmedial lines..... *trigona*.
 b². Fore wing with the submedian fascia not reaching subterminal line.
 a³. Fore wing with antemedial, medial, and subterminal white marks on costa *y-albula*.
 b³. Fore wing with more or less developed ante- and postmedial lines..... *fervida*.
 b¹. Fore wing without submedian fascia.
 a². Fore wing with the median nervure and vein 1 streaked with ochreous..... *cervina*.
 b². Fore wing with the median nervure and vein 1 not streaked with ochreous.
 a³. Fore wing with medial mark from costa across cell *brucei*.
 b³. Fore wing without medial mark from costa.
 a⁴. Fore wing without fascia in base of cell *casta*.
 b⁴. Fore wing with fascia in cell to antemedial line. *flavia*.
 b. Fore wing with the subterminal line not angled inwards at vein 4.
 a¹. Hind wing bright crimson, with the base and inner area black *parvula*.
 b¹. Hind wing dull crimson, without black at base and on inner area..... *beani*.

1657. *Phragmatobia maculosa*.

- Bombyx maculosa*, Gern. Frankf. Beytr. Wiss. ii. p. 862, pl. ii. ff. 1-3 (1780); Esp. Schmett. iii. p. 179, pl. 33. ff. 4, 5; Hübn. Eur. Schmett. ii. ff. 144, 145; Godt. Lép. Fr. iv. p. 349, pl. 36. f. 3; Herr.-Schäff. Schmett. Eur. ii. p. 145, f. 119; Staud. Cat. p. 58; Kirby, Cat. Het. p. 263.
Chelonia mannerheimii, Dup. Lép. Fr. Suppl. iii. p. 49, pl. 4. f. 2 (1836).
Chelonia simplonica, Boisd. Gen. et Ind. Meth. p. 64 (1840); Herr.-Schäff. Schmett. Eur. ii. p. 145, ff. 4-6; Dup. Lép. Fr. Suppl. iv. p. 9, pl. 51. f. 2.
Bombyx simplonia, Freyer, Neue Beitr. v. p. 16, pl. 392. ff. 3-5 (1843).
Chelonia dahurica, Boisd. Icones, Lép. ii. p. 126, pl. 60. f. 1 (1843); Herr.-Schäff. Schmett. Eur. ii. p. 145, f. 91.
Eyprepia honesta, Freyer, Neue Beitr. iv. p. 96, pl. 344. f. 2 (1843); Herr.-Schäff. Schmett. Eur. ii. p. 145, ff. 1-3.
Arctia maculosa, var. *cæcilia*, Led. Verh. zool.-bot. Ges. Wien, iii. p. 364 (1853).
Arctia maculosa, var. *reticulata*, Christ, Stett. ent. Zeit. xlviii. p. 163 (1887).
Arctia maculosa, var. *aragonensis*, Staud. Deutsch. ent. Zeit., Lep. vii. p. 256 (1894).

♂. Head and thorax brown; palpi, sides of frons, and stripes on tegulæ, patagia, and thorax black-brown; pectus and legs black-brown; abdomen blackish. Fore wing brown; a subbasal black spot below costa; an antemedial spot above vein 1; an elongate

medial spot in cell and another above vein 1; a spot in upper angle of cell and spots above bases of veins 2 and 5; a subapical spot and larger subterminal spots above veins 5 and 2 and on 1. Hind wing crimson, with oblique blackish band from middle of costa to near tornus; a discoidal patch conjoined to the dark costal area; a large subterminal spot from costa to vein 4 and others on veins 2 and 1; cilia brown.

♀. Hind wing deeper crimson.

Ab. 1. *simplicica*. Antennæ of male with the branches shorter; colour dull grey-brown; hind wing with the spots forming a more or less complete terminal band on inner area running up to near base; abdomen with pale brownish subdorsal bands and ventral surface in male.—Alps.

Ab. 2. *mannerheimi*. Paler brown; abdomen with some crimson lateral marks; hind wing with the black spots smaller.—Russia, Armenia, Hyrcania.

Ab. 3. *cacilia*. Smaller; fore wing suffused with black and variegated with white.—Bulgaria, Armenia, Altai.

Ab. 4. *reticulata*. Hind wing with the crimson slight.—Nuchur, Issykul.

Ab. 5. *strigulosa* (Stgr. ined.). Fore wing with the black spots larger, the veins more clearly streaked.

Ab. 6. *dahurica*. Paler; antennæ and markings of fore wing whitish flesh-colour; hind wing suffused with pale crimson.—S. Russia.

Ab. 7. *aragonensis*. A pale form with the spots somewhat reduced.—Spain.

Hab. GERMANY, Zeller Coll.; SWITZERLAND, Frey Coll.; HUNGARY; SPAIN; NORWAY, Zeller Coll.; S. RUSSIA, 1 ♂, Frey Coll.; TURKEY; ARMENIA; ALTAI; ISSYKUL, 1 ♂. *Exp.* 34 millim.

*1658. *Phragmatobia rupicola*.

Arctia rupicola, Gr.-Grschm. Rom. Mém. iv. p. 535, pl. 19. f. 6 (1890); Kirby, Cat. Het. p. 266.

♀. Head, thorax, and abdomen brown, the last with the last three segments yellow above leaving a dorsal brown line. Fore wing brown; the basal half grey-brown, with the dark brown markings reduced to short antemedial streaks in cell and on vein 1 and to medial streaks in and below cell and on vein 1; the postmedial line grey-brown, angled at lower angle of cell and connected with the subterminal line by streaks below costa, from lower angle of cell and above vein 1, the subterminal line being angled inwards at vein 4; cilia pale. Hind wing grey-brown, with diffused fuscous streaks on base of median nervure and vein 1; a large discoidal lunule; a semicircular apical patch and another on termen above tornus.

Hab. C. ASIA, Transalai. *Exp.* 30 millim. This species is unknown to me.

1659. *Phragmatobia kindermanni*.

Arctia kindermanni, Staud. Stett. ent. Zeit. xxviii. p. 102 (1867); Kirby, Cat. Het. p. 266; var. *pomona*, Staud. Iris, x. p. 326, pl. ix. f. 23 (1897).

- Arctia erschoffi*, Alph. Hor. Soc. Ent. Ross. xvii. p. 29, pl. i. f. 33 (1882); Kirby, Cat. Het. p. 265.
Arctia erschoffi, var. *ferghana*, Staud. Stett. ent. Zeit. xlviii. p. 82 (1887).
Arctia erschoffi, var. *issyka*, Staud. Stett. ent. Zeit. l. p. 25 (1889).
Arctia mongolica, Alph. Stett. ent. Zeit. xlix. p. 67 (1888); Rom. Mém. vi. p. 13, pl. i. f. 6; Kirby, Cat. Het. p. 265.

♂ (*erschoffi*). Head and thorax black mixed with grey and yellowish hair; antennæ, tibiæ, and tarsi whitish; abdomen with dorsal black band diminishing towards extremity and lateral and sublateral series of spots. Fore wing fuscous black; white streaks from base on costa, below median nervure, and on inner margin to the antemedial band, which is angled in submedian fold, the streak below the cell being continued to termen; a medial band from costa to submedian fascia excurved in cell; the postmedial band angled at vein 4, then oblique; the subterminal band more or less angled inwards below costa, then outwards to near termen above vein 5, then inwards to the postmedial band at vein 4, outwards to termen at vein 2, and inwards to submedian fascia; cilia white. Hind wing scarlet; some blackish at base and more or less developed subterminal black spots from costa to vein 5 and on veins 2 and 1; cilia yellow.

♀ with the wings partly aborted.

Ab. 1. *ferghana*. Fore wing with the markings obsolete toward inner margin and the subterminal band not continued to submedian fascia.—Alai.

Ab. 2. *issyka*. Fore wing with the markings yellow; hind wing with the subterminal spots sometimes large and conjoined.—Issykul.

Ab. 3. *mongolica*. Tegulæ pinkish in front; abdomen crimson; fore wing with yellowish antemedial spot on costa; hind wing with some antemedial black points.—Mongolia, Oros.

Ab. 4. *kindermanni*. Hind wing orange.—Urals, Mongolia.

Hab. URALS; SIBERIA, Altai, 2 ♂; MONGOLIA, Tura, 1 ♂, Tian-Shan, 3 ♂, 2 ♀, Alai, Issykul. *Exp.* 28 millim.

1660. *Phragmatobia glaphyra*.

- Euprepia glaphyra*, Ev. Bull. Mosc. xvi. p. 544, pl. x. f. 4 (1843); Staud. Stett. ent. Zeit. xlii. p. 402; Herr.-Schäff. Schmett. Eur. vi. p. 52, f. 165; Staud. Cat. p. 58; Kirby, Cat. Het. p. 265.
Arctia glaphyra, var. *manni*, Alph. Hor. Soc. Ent. Ross. xvii. p. 29, pl. i. f. 32 (1882).
Arctia glaphyra, var. *gratiosa*, Gr. Grschm. Rom. Mém. iv. p. 533, pl. xix. f. 5 (1890).
Arctia glauca, Staud. Iris, iv. p. 251, pl. 3. f. 5 (1892); Kirby, Cat. Het. p. 912.

♂. Head, thorax, and abdomen black mixed with ochreous-white hair; shaft of antennæ whitish above; legs streaked with ochreous; abdomen banded with ochreous towards extremity. Fore wing black-brown; the costa to middle and veins partially streaked with ochreous white; a white fascia in submedian fold, expanding to cell at base; traces of an antemedial line oblique from costa to submedian fascia, where it is strongly angled; a quadrate patch in end

of cell; the postmedial line oblique to vein 4, where it is strongly angled and not reaching costa or inner margin; the subterminal line incurved below costa and connected with the postmedial line by a streak on vein 6, angled outwards to near termen above vein 5, inwards to postmedial line at vein 4, outwards to near termen on vein 2, and inwards to submedian fascia. Hind wing orange-yellow tinged with scarlet; some black suffusion at base; a discoidal lunule; a large subterminal spot from costa to vein 4 and others on veins 2 and 1; a terminal line from apex to vein 3.

♀. Fore wing with the markings more ochreous and diffused, especially on terminal area.

Ab. 1. *manni*. Hind wing scarlet.

Ab. 2. *gratiosa*. Fore wing blacker; the antemedial line more complete; the medial patch extending to costal fascia and postmedial line; hind wing without discoidal lunule; the subterminal spots extending to nearer termen, a spot on termen at vein 5.

Ab. 3. *glauca*. Fore wing with the ground-colour violaceous grey; hind wing pale brownish, the inner and terminal areas suffused with blackish.—Transalai.

Hab. SIBERIA; C. ASIA, Alai, Transalai, Kuldja, Kuruk Tag, 1 ♂, 1 ♀, Tura, 1 ♂; TIBET, Boro Choro, 1 ♂. *Exp.* 34–38 millim.

1661. *Phragmatobia postflavida*.

Ocnogyna postflavida, Hmps. Moths Ind. ii. p. 18 (1894).

♂. Black-brown; head with grey hair mixed; antennæ whitish above; tegulæ edged with grey; legs whitish above; abdomen with yellowish segmental bands, the ventral surface yellowish except at base.



Fig. 132.

Phragmatobia postflavida, ♂. 1.
(From Moths Ind. vol. ii.)

Fore wing with whitish streaks in submedian fold and on base of vein 1; an antemedial line oblique and sinuous to the submedian streak, then erect to end of streak on vein 1; an oblique medial bar across the cell; a postmedial line angled at vein 5, then oblique; an irregular subterminal line dentate inwards to the postmedial line

on veins 6 and 4, angled outwards on vein 5, and excurved to termen at vein 2. Hind wing orange-yellow irrorated with blackish; a black discoidal spot; the inner area and a broad terminal band black, the latter indented at vein 3; cilia orange-yellow.

Hab. KASHMIR, Skoro-la, 15,000 feet (*Leech*), 2 ♂ type. *Exp.* 28 millim.

1662. *Phragmatobia trigona*. (Plate XLIII. fig. 4.)

Nyctemera trigona, *Leech*, Trans. Ent. Soc. 1899, p. 170.

Nyctemera trigona, var. *nigra*, *Leech*, Trans. Ent. Soc. 1899, p. 170.

♂. Black, head, thorax, and legs with some orange hair; abdomen with orange segmental bands. Fore wing with broad orange fasciæ on median nervure and in submedian fold and a narrow

fascia on inner margin; an oblique band from end of median fascia to submedian fascia at termen; a >-shaped mark with its lower arm conjoined to median fascia and extending to near termen. Hind wing orange-scarlet; the base black, emitting streaks to just beyond cell on subcostal and median nervures and to terminal markings on vein 1 and inner margin; large terminal spots at apex, vein 3, and near tornus, and a subterminal spot at vein 2.

Ab. 1. *nigra*. Fore wing with the orange markings reduced, the fascia on inner margin absent; hind wing wholly black.

Hab. W. CHINA, Ta-chien-lu, 12 ♂, type and type *nigra*. *Exp.* 32 millim.

1663. *Phragmatobia y-albula*.

Arctia y-album, Oberth. Ét. Ent. xi. p. 30, pl. 5. f. 29 (1886).

Arctia y-album, var. *lugubris*, Oberth. Ét. Ent. xi. p. 31.

Arctia y-album, var. *rubida*, Leech, Trans. Ent. Soc. 1899, p. 161.

♂. Black; palpi and frons with some orange hair; tegulae and patagia slightly edged with orange; legs streaked with whitish, the femora crimson above; abdomen with scarlet lateral stripes with series of black spots on them, the ventral surface white with indistinct series of black spots. Fore wing with slight white antemedial spot on costa and larger medial spot; a white stripe in submedian fold extending to middle; a short oblique line from below costa before apex; a <-shaped white mark from lower angle of cell, its arms extending to near termen at veins 5 and 2. Hind wing orange, the basal area black with dentate outer edge, on vein 1 and inner margin extending to the broad terminal band, which is indented at vein 3 and in submedian fold; a black discoidal spot; cilia orange.

Ab. 1. *rubida*. The orange replaced by scarlet.

Ab. 2. *lugubris*. Fore wing with the white markings reduced; hind wing wholly black, except that the cilia are orange towards tornus.

Hab. W. CHINA, Ta-chien-lu, 8 ♂, 1 ♀ type *rubida*, Pu-tsu-fong, 1 ♀, Moupin, 2 ♂, Wa-ssu-kou. *Exp.* 30 millim.

1664. *Phragmatobia fervida*.

Arctia fervida, Wlk. iii. 612 (1855); Druce, Biol. Centr.-Am., Het. i. p. 118; Kirby, Cat. Het. p. 269.

Heraclea commixta, Butl. Ill. Het. B. M. i. p. 54, pl. 19. f. 1 (1877).

Arctia rodriguezi, Druce, P. Z. S. 1890, p. 498; id. Biol. Centr.-Am., Het. ii. p. 392, pl. 77. f. 12; Kirby, Cat. Het. p. 270.

♀. Black; abdomen with scarlet lateral bands. Fore wing with yellowish-white fascia in submedian fold from base to just beyond middle; an oblique postmedial line from just below costa to vein 4; cilia whitish at tips. Hind wing scarlet, the costal area black; a terminal black band, on inner area running up to near base; a postmedial curved line from the costal fascia to the expansion of the terminal band at vein 2.

♂. Fore wing with antemedial band oblique from costa to submedian fascia and ending on vein 1; the postmedial band angled

and emitting a short streak on outer side at vein 4, and reaching the submedian fascia which nearly reaches termen; hind wing with small postmedial spots below veins 2 and 1 and no subterminal line.

Hab. GUATEMALA (*Sallé*), 1 ♀ type, and type *commixta*, (*Rodriguez*) 1 ♂ type *rodriguezi*, Godman-Salvin Coll. *Exp.* 38 millim.

1665. *Phragmatobia cervina*.

Nemeophila cervina, Fall. Ann. Soc. Ent. Fr. (4) iv. p. 23, pl. 1. f. 2 & pl. 10. ff. 1-3 (1864); Staud. Cat. p. 58; Kirby, Cat. Het. p. 271.

Chelonia quenselii, var. *falloui*, Jourh. Ann. Soc. Ent. Fr. (4) vi. p. 127, pl. 2. f. 14 (1866).

Arctia cervina, var. *hnatecki*, Frey, Lep. Schweiz. p. 85 (1880).

♂. Head, thorax, and abdomen black; palpi below, antennæ above, and edges of tegulæ and patagia ochreous; legs striped with ochreous; abdomen with orange-yellow bands, the anal tuft orange. Fore wing fuscous black; the subcostal and median nervures and vein 1 streaked with yellow to beyond middle; the antemedial line oblique from costa to median nervure and not reaching inner margin; some medial marks on costa and median nervure; the postmedial line oblique from costa to vein 4, where it is angled, then very oblique to inner margin; the subterminal line bent outwards at vein 6, then inwards to postmedial line at vein 4, then to termen at vein 2, and angled inwards again in submedian fold; cilia yellow. Hind wing fuscous black with traces of a darker discoidal spot; an indistinct yellowish postmedial line angled at vein 4 and not reaching inner margin; the indistinct subterminal line angled inwards at vein 4 to the postmedial line; cilia yellow.

♀. The yellow markings more developed.

Ab. 1. *hnatecki*. The yellow markings considerably more developed in both sexes.

Hab. SWITZERLAND, High Alps, 4 ♂, 5 ♀, Frey Coll. *Exp.* 38 millim.

*1666. *Phragmatobia brucei*.

Arctia brucei, H. Edw. Ent. Am. iii. p. 183 (1888); Kirby, Cat. Het. p. 270.

♂. Head black-brown with some ochreous hair; tegulæ ochreous, tinged with crimson at base; thorax black; legs ochreous, fringed with crimson hair; abdomen black-brown, with fulvous lateral tufts and ventral fascia. Fore wing ochreous tinged with crimson; a subbasal black-brown spot below costa and two short streaks above inner margin; a broad Y-shaped medial band forming a small fork towards costa; the terminal area black-brown, leaving a line of the ground-colour defining the medial band and emitting an oblique



Fig. 133.—*Phragmatobia brucei*, ♂. †.

streak to termen at vein 2 and a short streak on vein 4; a slight oblique streak from costa before apex; cilia pinkish. Hind wing crimson, with fuscous streak in cell; a black discoidal lunule with one or two small spots below it; a large terminal patch from apex to vein 3 and another from vein 3 to near tornus.

Hab. U.S.A., Colorado, in Coll. Schaus. *Exp.* 38 millim.

1667. *Phragmatobia casta*.

Bombyx casta, Esp. Schmett. iii. p. 177, pl. 33. f. 2 (1784); Hübn. Eur. Schmett. ii. ff. 137, 219; Godt. Léop. Fr. iv. p. 316, pl. 32. ff. 3, 4; Staud. Cat. p. 58; Kirby, Cat. Het. p. 264.

♂. Head, thorax, and abdomen dark brown. Fore wing dark brown; a slight pinkish-white mark at base of inner margin; a broad antemedial band angled outwards in submedian fold, sometimes reduced and interrupted; a slightly curved postmedial band giving off a short fascia on outer side between veins 3, 4, which sometimes emits a spur to termen above tornus; a slight mark from costa before apex. Hind wing white, more or less tinged with pink; a medial fuscous spot on costa sometimes extending across the cell; a broad terminal band interrupted or with spot on it between veins 3, 4.

♀. Head and tegulæ often white tinged with pink; femora pink above; abdomen with subdorsal crimson bands on basal segments; fore wing with the markings often more developed, the mark from costa being bent outwards at vein 6, then inwards to the fascia from postmedial band; hind wing crimson, usually with the terminal band reduced to two elongate spots.

Hab. FRANCE; GERMANY, Zeller Coll.; SWITZERLAND, Frey Coll.; HUNGARY; RUSSIA. *Exp.* 34 millim.

1668. *Phragmatobia flavia*.

Bombyx flavia, Fuessl. Mag. ii. (1) p. 70, pl. 1. f. 11 (1779); Esp. Schmett. iii. p. 390, pl. 78. f. 1; Stoll, Pap. Exot. iv. pl. 397, O; Hübn. Eur. Schmett. ii. ff. 315, 318; Godt. Léop. Fr. iv. p. 304, pl. 30. f. 4; Boisd. Icones Léop. ii. p. 130, pl. 59. f. 5; Staud. Cat. p. 57; Kirby, Cat. Het. p. 259.

Bombyx virgo, Hübn. Eur. Schmett. ii. f. 132 (1827).

Arctia flavia, var. *campestris*, Graser, Berl. ent. Zeit. xxxvii. p. 212 (1892).

Head and thorax black; neck with crimson ring; tegulæ with yellowish band in front; femora crimson above; abdomen crimson with black dorsal stripe, terminal segment, and ventral bands on terminal segments. Fore wing black, with incurved whitish antemedial line connected with base by fasciæ in cell and on inner margin; the medial part of costa white; a postmedial band angled at vein 4, then slightly sinuous; a subterminal line angled outwards to termen above vein 5, then inwards to the postmedial band above vein 3, then outwards to tornus; cilia white. Hind wing yellow; a black discoidal lunule sometimes with a spot below it on vein 2; a subterminal spot on vein 5 sometimes connected with costa and a band from vein 3 to near tornus.

Ab. 1. *campestris*. Fore wing with the medial black patch extending to median nervure only; the black on underside extending to costa.

Hab. EUROPE, Alps, Zeller & Frey Colls., Urals; ALTAI. *Exp.* 70 millim.

Larva. Kirby, Eur. Butt. & Moths, p. 103.

Dark brown, with some greenish-yellow white-tipped hairs. Food-plants, *Cotoneaster vulgaris*, etc.

***1669. *Phragmatobia*? *parvula*.**

Arctia parvula, Feld. Reis. Nov. pl. 100. f. 24 (1874); Hmps. Moths Ind. ii. p. 17; Kirby, Cat. Het. p. 277.

♂. Head crimson; the antennæ dark; thorax and abdomen brown, the latter with pale segmental rings. Fore wing pale brown; the costal area crimson to the postmedial line; the base black, emitting a fascia on inner margin to middle; a black discoidal spot; a subterminal fuscous band angled outwards at vein 4, then incurved; cilia crimson. Hind wing deep crimson; the base and inner area black; a black discoidal spot; a subterminal waved black band.

Hab. N.W. HIMALAYAS (*Stoliczka*). *Exp.* 28 millim. This species is unknown to me, the type is lost.

***1670. *Phragmatobia* *beani*. (Plate XLIII. fig. 7.)**

Antarctia beanii, Neum. Can. Ent. xxiii. p. 123 (1891); Kirby, Cat. Het. p. 908.

Antarctia beanii, var. *fuscata*, Neum. Can. Ent. xxiii. p. 124 (1891).

♀. Bright red-brown; head, tegulæ, and legs tinged with crimson; abdomen fulvous. Fore wing with broad Y-shaped fuscous medial band forming a large fork towards costa; a curved subterminal band formed of conjoined spots. Hind wing dull crimson, with indistinct medial fuscous band angled at lower angle of cell; an interrupted maculate subterminal band.

Ab. 1. *fuscata*. Fore wing uniform fuscous brown without trace of the ground-colour.

Hab. U.S.A., N. Rocky Mountains, Laggan, in Coll. Schaus. *Exp.* 38 millim.

SECT. II. Antennæ of male bipectinate, with very short branches.

***1671. *Phragmatobia* *yarrowi*.**

Arctia yarrowii, Stretch, Zyg. & Bomb. N. Am. i. p. 221, pl. 9. f. 7 (1874); Kirby, Cat. Het. p. 257.

Arctia remissa, H. Edw. Ent. Am. iii. p. 184 (1888); Kirby, Cat. Het. p. 258.

♂. Head, thorax, and abdomen jet-black; tegulæ and a patch on patagia ochreous white; femora orange-red above; tibiæ at extremity

and tarsi banded with reddish ochreous; abdomen with some lateral points and the extremity orange-red. Fore wing black; large sub-basal ochreous-white patches on costal and inner areas; an ante-medial band slightly constricted below costa and strongly below the cell; a medial irregular wedge-shaped patch from costa to median nervure and bar from submedian fold to above inner margin; a postmedial band excurved beyond lower angle of cell, then narrow



Fig. 134.—*Phragmatobia yarrowi*, ♂. 1.

and incurved; a subterminal band bent outwards nearly to termen above vein 5, then incurved and conjoined to the postmedial band, angled inwards in submedian fold and ending at tornus; cilia whitish. Hind wing orange-red; the basal area black, its outer edge irregularly dentate, oblique and ending on termen above vein 1 *a*; a black discoidal lunule; subterminal black spots on veins 5 and 2, and terminal spots at middle and on vein 1 *b*.

Hab. CANADA, Rocky-Mountain region to Hudson's Bay; VANCOUVER; U.S.A., Wyoming, Arizona. *Exp.* 46 millim.

Larva. Black, the hair of posterior segments longer and tipped with white.

SECT. III. (*Phragmatobia*). Antennæ of male ciliated.

- A. Fore wing thinly scaled, not irrorated with fuscous *fuliginosa*.
 B. Fore wing thickly scaled and thickly irrorated with fuscous..... *assimilans*.

1672. *Phragmatobia fuliginosa*.

Noctua fuliginosa, Linn. Syst. Nat. i. p. 509 (1758); Esp. Schmett. iv. p. 56, pl. 86. ff. 1-5; Hübn. Eur. Schmett. ii. f. 143; Godt. Léop. Fr. iv. p. 351, pl. 36. f. 4; Steph. Ill. Brit. Ent., Haust. ii. p. 74; Staud. Cat. p. 59; Kirby, Cat. Het. p. 244.

Arctia rubricosa, Harr. Ins. Mass. p. 253 (1841); Kirby, Cat. Het. p. 245.

Spilosoma fuliginosa, var. *borealis*, Staud. Cat. p. 59 (1871).

Spilosoma fuliginosa, var. *fervida*, Staud. Cat. p. 59 (1871); Mill. Lépidopterologie, vi. p. 4, pl. 8. f. 6.

Spilosoma fuliginosa, var. *subnigra*, Mill. Lépidopterologie, vi. p. 4, pl. 8. f. 7 (1881); Kirby, Cat. Het. p. 245.

Head and thorax dark red-brown; palpi crimson at base; shaft of antennæ whitish; legs blackish, fringed with red-brown hair, the femora crimson above; abdomen crimson above, with series of short dorsal black bands and lateral series of spots, the ventral surface

brown. Fore wing bright red-brown; thinly scaled; two black discoidal points; traces of a red streak below costa; cilia redder. Hind wing thinly scaled, suffused with fuscous black, the veins, two points on discocellulars, and a diffused terminal band darker; the inner area, costa except at apex, and cilia bright crimson.



Fig. 135.—*Phragmatobia fuliginosa*, ♂. 1.

Ab. 1. *borealis*. Darker; hind wing with traces of crimson on inner area only or with the cilia also crimson.—Lapland; Scotland.

Ab. 2. *fervida*. Paler; hind wing crimson; the terminal band sometimes reduced to four subterminal spots.—C. Europe; Greece; Malta; Morocco.

Hab. Throughout EUROPE, Germany, Zeller Coll., Switzerland, Frey Coll., Greece, Frey & Merlin Colls., Malta (*J. J. Walker*), Lapland (*McLachlan*); MOROCCO, Esmir (*J. J. Walker*); W. ASIA; ALTAI; AMUR; CANADA, Hudson's Bay (*Barnston*), Renfrew Co., Grote Coll.; U.S.A., N. Atlantic States, N. York, Grote Coll. *Exp.* 32–40 millim.

Larva. Meyr. Brit. Lep. p. 39; Barrett, Lep. Brit. p. 275, pl. 75. f. 1.

Dark grey or brown; hairs brown, reddish or ochreous; head black. Food-plants, grasses, *Rumex*, *Myosotis*, etc. 8–4.

1673. *Phragmatobia assimilans*. (Plate XLIII. fig. 22.)

Phragmatobia assimilans, Wlk. iii. 630 (1855); Kirby, Cat. Het. p. 245.

Phragmatobia assimilans, var. *franconia*, Slosson, Ent. News, vol. iv. p. 16 (1893).

♂. Head and thorax bright red-brown tinged with crimson; antennæ yellowish white; pectus and legs crimson and brown; abdomen crimson above, with slight dorsal and lateral series of black spots, the ventral surface brown. Fore wing bright red-brown, thickly irrorated with fuscous; two discoidal black points. Hind wing crimson, with two discoidal black points; a subterminal spot on vein 2 and traces of others towards apex.

Ab. 1. *franconia*. Rather darker; fore wing with obscure fuscous antemedial line angled below cell, a postmedial line incurved below vein 3, and a sinuous subterminal line; hind wing with subterminal blackish band.

Hab. U.S.A., mountains of N. York and N. England (*Doubleday*), 2 ♂ type, 2 ♂, Zeller Coll. *Exp.* 40–42 millim.

Genus **ARDICES.**

Type.

Ardices, Wlk. iii. 709 (1855) *glatignyi*.

Proboscis aborted; palpi porrect to just beyond frontal tuft and fringed below with long hair; head, thorax, and abdomen clothed with long hair; eyes sparsely clothed with long hair; antennæ bipectinate with the branches moderate. Fore wing with veins 3 and 5 from close to angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3 and 5 from close to angle of cell; 6, 7 from upper angle or shortly stalked; 8 from middle of cell.

- A. Hind wing with the ground-colour crimson *curvata*.
 B. Hind wing with the ground-colour white *glatignyi*.

1674. *Ardices curvata*.

Bombyx curvata, Donovan. Ins. N. Holland, pl. 34. f. 3 (1805); Kirby, Cat. Het. p. 263.

Chelonia fuscimula, Doubl. Eyre's Centr. Austr. i. p. 438, pl. 5. f. 4 (1845); Kirby, Cat. Het. p. 263.

Arctia vittata, Möschl. Stett. ent. Zeit. xxxiii. p. 351 (1872); Kirby, Cat. Het. p. 263.

Phaos vigens, Butl. P. Z. S. 1878, p. 383; Kirby, Cat. Het. p. 262.

Phaos nigriceps, Butl. P. Z. S. 1878, p. 383; Kirby, Cat. Het. p. 262.

Phaos notatum, Butl. P. Z. S. 1878, p. 383; Kirby, Cat. Het. p. 263.

Phaos nexum, Butl. P. Z. S. 1878, p. 384.

Phaos lacteatum, Butl. P. Z. S. 1878, p. 384; Kirby, Cat. Het. p. 263.

Spilosoma brisbanensis, Lucas, P. Linn. Soc. N.S.W. (2) iv. p. 1084 (1890); Kirby, Cat. Het. p. 263.

Spilosoma quinquefascia, Lucas, P. Linn. Soc. N.S.W. (2) iv. p. 1085 (1890); Kirby, Cat. Het. p. 263.



Fig. 136.—*Ardices curvata*, ♂. 1.

Head and thorax brownish ochreous; palpi, sides of frons, antennæ, and sometimes the vertex of head black; patagia and vertex of thorax with more or less developed black stripes; pectus and legs ochreous and black, the femora crimson above; abdomen crimson above, with dorsal series of short bands, the ventral surface ochreous, with sublateral series of black spots or with series of ventral bands. Fore wing ochreous, with black fascia on basal part of costa, a fascia above basal half of vein 1; streaks below middle and end of cell, spots between bases of veins 3 and 5; a discoidal spot and usually one in middle of cell, a more or less developed curved postmedial spot and a more or less developed subterminal series; or the black markings largely developed and more or less confluent; or the wing black, with ochreous streaks

in and below cell, a curved postmedial band, and some subterminal spots. Hind wing orange-yellow entirely suffused with crimson, or the inner area only suffused with crimson; a large black discoidal spot; a subterminal series of spots varying in size, often conjoined, and with spots beyond them on apical half of termen, or with complete broad terminal band and black streak on inner area.

Ab. 1. ♀. Thorax with slight black streak on vertex and spot on patagia; fore wing with all the markings almost obsolete, except the streak on basal part of costa and discoidal spot.

Hab. QUEENSLAND, Brisbane (*Turner*), 4 ♂, 1 ♀, Moreton Bay (*Damel*), 1 ♂ type *lacteata*; N. S. WALES, Hunter R., 1 ♂ type *fasciula*, Sydney (*Mathew*, *Raynor*), 28 ♂, 4 ♀, type *notata*; VICTORIA (*Bakewell*), 2 ♂, types *newa* and *nigriceps*; TASMANIA, 4 ♂, type *vigens*. *Exp.* 34-42 millim.

1675. *Ardices glatignyi*.

Chelonia glatignyi, Le Guill. Rev. Zool. 1841, p. 257; Kirby, Cat. Het. p. 239.

Chelonia pallida, Doubl. Eyre's Centr. Austr. i. p. 438, pl. 5. f. 3 (1845); Kirby, Cat. Het. p. 240.

Ardices fulvohirta, Wlk. iii. 710 (1855).

Spilosoma subocellatum, Wlk. vii. 1697 (1856); Kirby, Cat. Het. p. 240.

Spilosoma conferta, Wlk. xxxi. 295 (1864).

Spilosoma queenslandi, Lucas, Pr. R. Soc. Queensl. xiii. p. 60 (1898).

White; palpi orange, black at tips; lower part of frons and antennæ black; shoulders with black stripe with orange spot above it; patagia and vertex of thorax with black stripes; legs striped with black, fore coxæ black edged with orange, femora orange above; abdomen orange above, with dorsal series of short bands and lateral and sublateral series of spots, the anal tuft white at extremity. Fore wing with black fasciæ at base on costa, in and below cell, and above inner margin, usually conjoined on median nervure to the antemedial band, which is acutely angled on median nervure, where it is conjoined to the discoidal spot and to the postmedial maculate band, which is excurved from below costa to vein 3, then oblique, this again is usually conjoined at middle to the curved subterminal maculate band, which is joined by an oblique maculate band from apex and usually conjoined to some subterminal spots between veins 5 and 3 and to a series of spots on termen and cilia. Hind wing with discoidal spot; some irregular marks often present beyond lower angle of cell; two postmedial points below costa; a more or less developed subterminal maculate band; some spots on apical half of termen.

Ab. 1. *pallida*. The orange replaced by scarlet.

Hab. N. HEBRIDES (*H.M.S. Dart*), 1 ♂, 1 ♀; S. AUSTRALIA, Kangaroo I., type ♀ *pallida*; W. AUSTRALIA (*Du Boulay*), 2 ♀, type *subocellatum*, Albany (*J. J. Walker*), 1 ♂; TASMANIA, Hobart (*J. J. Walker*), 5 ♂, 8 ♀, types *fulvohirta* and *conferta*. *Exp.*, ♂ 50, ♀ 58 millim.

Genus **MÆNAS.**

	Type.
<i>Mænas</i> , Hübn. Verz. p. 167 (1827).....	<i>vocula</i> .
<i>Lemyra</i> , Wlk. vii. 1690 (1856).....	<i>extensa</i> .
<i>Savara</i> , Wlk. xxxi. 320 (1864), nec Wlk. 1862.....	<i>simplex</i> .
<i>Borseba</i> , Wlk. xxxi. 318 (1864).....	<i>surgens</i> .
<i>Bucæa</i> , Wlk. xxxv. 1983 (1866).....	<i>simplex</i> .
<i>Palustræ</i> , Bar. Ann. Soc. Ent. Fr. (5) iii. p. 300 (1873).....	<i>laboulbeni</i> .
<i>Carbisa</i> , Moore, Lep. Atk. p. 41 (1879).....	<i>venosa</i> .
<i>Eutænia</i> , Wlgr. Cefv. Svensk. Akad. Förh. xxxii. (1) p. 102 (1876), nec Thoms. Col. 1857.....	<i>scapulosa</i> .

Proboscis aborted, minute; palpi porrect, not reaching beyond the frons; head, thorax, and abdomen clothed with rough woolly hair; antennæ of male bipectinate with long branches, of female with short branches; tibiæ clothed with rough hair, the spurs short, hind tibiæ with the medial spurs absent; abdomen of female with thick flocculent anal tuft. Fore wing with vein 3 from towards angle of cell; 5 from above angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with vein 3 from before angle of cell; 5 from just above angle; 6, 7 from upper angle; 8 from middle of cell.

Larvæ of S. American species clothed with two fasciæ of long hair on each somite, with dorsal brushes of shorter hair on somites 5-10 finely plumose and clear red, the rest of the hair black. They live in water on aquatic plants, breathing the air retained among the plumose hairs appearing as large bubbles; they leave the water to spin a cocoon.

A. Fore wing with the ground-colour white.

a. Fore wing with brown fasciæ on median nervure and vein 1.

- a¹. Fore wing with spots on basal half of costa *vocula*.
 b¹. Fore wing without spots on basal half of costa *arborifera*.

b. Fore wing without brown fasciæ.

- a¹. Fore wing with two postmedial maculate bands..... *maculifascia*.
 b¹. Fore wing with postmedial series of small spots.
 a². Fore femora orange above *malayensis*.
 b². Fore femora crimson above *vestalis*.
 c¹. Fore wing without markings..... *albescens*.

B. Fore wing with the ground-colour orange

C. Fore wing pale brownish ochreous *extensa*.

D. Fore wing brown or blackish.

a. Fore wing without transverse lines or series of spots.

- a¹. Fore wing fuscous.
 a². Fore wing with the costal edge fulvous *fumipennis*.
 b². Fore wing with ochreous spots on costa beyond middle *venosa*.

- b¹. Fore wing pale brown, with white streaks on the veins *surgens*.

b. Fore wing with two obscure postmedial lines.

- a¹. Fore wing pale rufous; the anal tuft white *laboulbeni*.
 b¹. Fore wing dark rufous; the anal tuft fulvous *burmeisteri*.
 c¹. Fore wing black-brown; the anal tuft black-brown. *bilinea*.

c. Fore wing with obscure maculate subterminal line.

- a¹. Fore wing with the disk whitish on underside; hind wing with the inner area not clothed with orange hair *jiruana*.

- b¹. Fore wing with the disk brown on underside; hind wing with the inner area clothed with orange hair. *azollæ*.

d. Fore wing red-brown with series of black spots *breveti*.

1676. *Mænas vocula*.

Bombyx vocula, Stoll, Suppl. Cram. pl. 31. f. 5 (1790); Kirby, Cat. Het. p. 910.

♂. White; palpi, sides of frons, and vertex of head brown; antennæ with the branches brown; tegulæ, patagia, and thorax with brown patches, the tegulæ yellow below; legs striped with brown; abdomen orange above, with dorsal blackish line and subdorsal, lateral, and sublateral series of points. Fore wing with five



Fig. 137.—*Mænas vocula*, ♂. $\frac{1}{2}$.

brown spots on costa; a sinuous fascia on median nervure, emitting a streak to subcostal nervure conjoined to some of the costal spots, and giving off a branch on vein 2 not reaching termen, branches on veins 3 and 4 to termen, and an oblique maculate branch to apex; a sinuous fascia on vein 1, with an antemedial spot below it just above inner margin and conjoined to a postmedial spot. Hind wing unmarked or with discoidal spot, subterminal spots on veins 5 and 2, a spot at apex, and some smaller spots on middle of termen.

Hab. C. COLONY, Knysna (*Trimen*), 4 ♂. *Exp.* 36–40 millim.

1677. *Mænas arborifera*.

Lacydes arborifera, Butl. Cist. Ent. ii. p. 26 (1875); Kirby, Cat. Het. p. 910.

Eutænia scapulosa, Wllgrn. (Efv. Svensk. Akad. Förh. xxxii. (1) p. 102 (1876); Kirby, Cat. Het. p. 910.

Caligula wallengreni, Auriv. (Efv. Svensk. Akad. Förh. xxxvi. (7) p. 56 (1879); Kirby, Cat. Het. p. 910.

Lacydes gracilis, Butl. P. Z. S. 1898, p. 417, pl. 32. f. 4.

White; palpi, sides of frons, and a spot on vertex of head brown; brown streaks on tegulæ, patagia, and thorax, the tegulæ edged with yellow; legs streaked with brown; abdomen orange above, with dorsal, subdorsal, lateral, and sublateral series of black points. Fore wing with brown fascia on costa, emitting at middle of cell a fascia to costa which expands on costa and is often more or less forked on lower side, sometimes the costal part not conjoined to median fascia, the median fascia emitting branches on veins 2, 3, 4, and joined by an oblique band from apex, the branches on veins 2 and 3 usually uniting before termen; a fascia on vein 1 sometimes conjoined to an antemedial spot on inner margin and with a postmedial projection. Hind wing usually with discoidal point, sometimes with subterminal points on veins 5 and 2 or with terminal points on veins 7, 6, 4, 3.

Hab. BR. E. AFRICA, Samburu, Fundi (*Betton*), 1 ♂, 1 ♀ type *gracilis*; ANGOLA, Ambriz (*Mrs. Monteiro*), 1 ♂, 1 ♀ type; OVAMPO-LAND (*Ericsson*), 1 ♂; TRANSVAAL, Potchefstroom (*Alston*), 1 ♂; DELAGOA BAY, 1 ♀. *Exp.* 30–36 millim.

1678. *Mænas maculifascia*.

Spilosoma maculifascia, Wlk. iii. 676 (1855); Semp. Schmett. Phil. ii. pl. lvi. ff. 9, 10; Pag. Semon's Forsch. v. pl. xiii. f. 7; Kirby, Cat. Het. p. 239.

Spilosoma conspurcatum, Wlk. vii. 1698 (1856).

Lymantria parva, Wlk. xxxii. 368 (1865); Kirby, Cat. Het. p. 479.

♂. Yellowish white; palpi, sides of frons, antennæ, patches on shoulders, tegulæ, and patagia, and stripes on legs dark brown; the patagia and abdomen tinged with orange above, with slight dorsal and lateral series of black spots. Fore wing with point at base; three obliquely placed elongate dark brown spots from costa to below cell; an antemedial series expanding into a triangular patch on costal area, often conjoined to the subbasal spots and conjoined to the medial band, which is oblique from costa to submedian fold, where it joins the postmedial band; spots at angles of cell; the maculate postmedial band angled at vein 5, where it becomes confluent with an oblique band from near apex and with short streaks beyond it on each side of veins 3, 4, 5; spots on termen and cilia above and below vein 5 and at tornus. Hind wing with discoidal spot; postmedial spots above vein 5 and three or four towards inner margin; points on termen above and below vein 5.

♀. Fore wing with the bands and the spots forming them well separated.

Ab. 1. Abdomen tinged with crimson.—Ternate.

Hab. PHILIPPINES; SUMATRA (*H. O. Forbes*), 1 ♂; JAVA (*Horsfield*), 6 ♂, 7 ♀, type and type *conspurcatum*; TERNATE (*J. J. Walker*), 1 ♂. *Exp.*, ♂ 30, ♀ 46 millim.

Larva. Moore, Lep. E. I. C. p. 355, pl. 16. ff. 9, 9a.

Violaceous grey with dark striæ; head red-brown; hairs long, sparse, black; dorsal warts dark, with small subdorsal white spots; spiracles and subspiracular warts red; supra- and subspiracular pale stripes; legs and prolegs yellow. Food-plants, *Cenvolvulus*, *Dioscorea oppositifolia*, and *Erythrina*. Dec.–Jan.

1679. *Mænas malayensis*, n. sp. (Plate XLIII. fig. 2.)

♀. White, very slightly tinged with ochreous; palpi at tips and antennæ blackish; legs tinged with blackish, the fore femora with some orange above. Fore wing with subbasal and antemedial blackish spots on costa; a short streak in cell above base of vein 2; spots in angles of cell; an oblique postmedial series of points slightly incurved below vein 3; an oblique series of strigæ from close to apex to vein 6; some subterminal points between veins 5 and 3.

Hab. BALI, 2500 ft. (*Doherty*), 1 ♀ type. *Exp.* 46 millim.

1680. *Mænas vestalis*.

Spilosoma vestalis, Pack. Proc. Ent. Soc. Phil. iii. p. 125 (1864); Stretch, Zyg. & Bomb. N. Am. p. 133, pl. 6. ff. 7, 8; Kirby, Cat. Het. p. 229.
Spilosoma vestalis, ab. *amelaina*, Dyar, Psyche, vi. p. 511 (1893).

Pure white; palpi, branches of antennæ, and streaks on legs black, fore femora crimson above; abdomen with dorsal series of short black bands or spots, a lateral series of spots, and sometimes some sublateral spots, sometimes the sides with some yellow. Fore wing with antemedial and medial series of black points angled on median nervure; points at the angles of cell; a postmedial series of points on each side of the veins excurved from below costa to vein 3 and a subterminal series of points on each side of the veins, almost all these points being sometimes absent. Hind wing with discoidal spot; a subterminal spot below vein 2 and sometimes one above vein 5.

Ab. *amelaina*. Abdomen with the spots partially or entirely absent.

Hab. BRIT. COLUMBIA; U.S.A., California (*Stretch*), 8 ♂, 1 ♀, (*Walsingham*) 1 ♀. *Exp.*, ♂ 54, ♀ 60 millim.

1681. *Mænas albescens*, n. sp. (Plate XLIII. fig. 20.)

♂. White; palpi and sides of frons black; antennæ rufous; fore legs streaked with black, the femora orange above; abdomen with the dorsal surface orange, clothed with white hair.

♀. Antennæ with the branches black; abdomen with the two terminal segments white.

Hab. VENEZUELA, Valencia; PERU (*Simons*), 1 ♀. *Exp.* 34 millim.

1682. *Mænas extensa*. (Plate XLIII. fig. 6.)

Lemyra extensa, Wlk. vii. 1690 (1856); Kirby, Cat. Het. p. 299.

♀. Fulvous orange; palpi black at base and extremity; antennæ black; vertex of head, tegulæ, and patagia with black spots; legs orange and black; abdomen with dorsal series of black spots, becoming bands towards extremity. Fore wing with the costa black; black streaks on subcostal nervure, in submedian fold, and on inner margin to the curved antemedial line; an oblique mark from middle of costa; a large discoidal spot with incurved band from it to inner margin; the veins of terminal area streaked with black, stronger on veins 3 and 4; a terminal black band, wide at apex, narrowing to tornus. Hind wing with small discoidal spot; a terminal black band with waved inner edge.

Hab. CELEBES (*Pfeiffer*), 1 ♀ type. *Exp.* 42 millim.

1683. *Mænas simplex*. (Plate XLIII. fig. 5.)

Savara simplex, Wlk. xxxi. 320 (1864); Hmps. Moths Ind. ii. p. 29; Kirby, Cat. Het. p. 234.

Head and thorax brownish ochreous; branches of antennæ black;

palpi and legs tinged with fuscous brown; abdomen orange above, with dorsal series of black points, the ventral surface brown. Fore wing ochreous. Hind wing yellowish white.

Hab. BOMBAY, Khandalla; N. CANARA, 5 ♂, 1 ♀ type. *Exp.*, ♂ 30, ♀ 34 millim.

1684. *Mænas fumipennis*.

Phragmatobia fumipennis, Hmps. Ill. Het. B. M. viii. p. 54, pl. 140. f. 24 (1891); id. *Moths Ind.* ii. p. 29; Kirby, *Cat. Het.* p. 246.

♂. Head and thorax orange-fulvous; palpi, lower part of frons, pectus, and legs fuscous; abdomen fuscous, with dorsal fulvous bands, especially on terminal segments. Fore wing fuscous brown, the costa fulvous. Hind wing fuscous brown, thinly scaled.

Hab. NILGIRIS, W. slopes (*Hampson*), 1 ♂ type. *Exp.* 32 millim.

1685. *Mænas venosa*.

Carbisa venosa, Moore, *Lep. Atk.* p. 41, pl. 2. f. 10 (1879); Hmps. *Moths Ind.* ii. p. 13; Kirby, *Cat. Het.* p. 238.

♂. Head and thorax ochreous or whitish, the latter sometimes suffused with black; palpi and antennæ blackish; tegulæ edged with pale orange; legs whitish, striped with brown, the fore coxæ orange; abdomen orange above, with dorsal, lateral, and sublateral series of black points; wings fuscous brown to nearly black. Fore wing with the veins ochreous or whitish; a spot at base, an elongate mark on costa above end of cell, and postmedial spot; the pale veins sometimes expanding into spots on termen. Hind wing with ochreous or whitish marks at base, on middle of costa, and at tornus.

Hab. SIKHIM; BHUTAN (*Dudgeon*), 2 ♂. *Exp.* 36 millim.

1686. *Mænas surgens*. (Plate XLIII. fig. 17.)

Borseba surgens, Wlk. xxxi. 318 (1864); Kirby, *Cat. Het.* p. 440.

♀. Head and thorax pale brown; palpi and antennæ blackish, the latter with the shaft white above; pectus white; legs tinged with brown, the femora orange above; abdomen orange above, clothed with white hair, especially towards base, the ventral surface white, brown towards extremity. Fore wing pale brown; the veins, a streak in submedian fold, the inner margin, and cilia white. Hind wing white, the costal area slightly tinged with brown.

Hab. COLOMBIA, Bogotá (*Stevens*), 1 ♀ type. *Exp.* 54 millim.

1687. *Mænas laboulbeni*.

Palustra laboulbeni, Bar, *Ann. Soc. Ent. Fr.* (5) iii. p. 301, pl. 8(2). ff. 1-8 (1873); Kirby, *Cat. Het.* p. 224.

Pale fulvous brown; femora above and abdomen tinged with orange, the two terminal segments whitish in female. Fore wing

with obscure diffused fuscous antemedial line angled below the cell; traces of a discoidal lunule; obscure diffused obliquely curved post-medial and subterminal lines. Hind wing paler and yellower.

Hab. CAYENNE; AMAZONS, Gurapa (*Austen*). *Exp.*, ♂ 34, ♀ 48-54 millim.

Larva. Black; the tufts of hair rather short, the dorsal tufts reddish or bright rufous; the hair mixed with grey on subdorsal area and with some barbed hair meeting over the back and directed backwards; the sides with tufts of long silky hair. Food-plant, *Mayaca fluviatilis*, on which it feeds below the surface of the water.

1688. *Mænas burmeisteri*.

Palustra burmeisteri, Berg, An. Soc. Arg. iii. p. 228 (1877); id. Stett. ent. Zeit. xxxix. p. 224, pl. i. f. 1 (1878); Kirby, Cat. Het. p. 224.

Dull brown; antennæ black; legs tinged with black; abdomen obscurely banded with black, the extremity pale. Fore wing with obscure black discoidal lunule; two ill-defined postmedial lines excurved from costa to vein 2, the inner then incurved, the outer with a spot below it on inner margin; faint traces of subterminal darker patches. Hind wing rather paler, yellowish towards inner margin; an obscure curved black subterminal line.

Hab. ARGENTINA, Buenos Ayres (*Berg*), 2 ♂. *Exp.*, ♂ 64, ♀ 86 millim.

Larva on *Potamogeton* and other aquatic plants.

1689. *Mænas bilinea*. (Plate XLIII. fig. 21.)

Mænas bilinea, Schaus, A. M. N. H. (7) vii. p. 269 (1901).

♂. Greyish fuscous-brown; antennæ with the basal joint orange at sides; femora orange above; abdomen with lateral orange stripes. Fore wing with indistinct curved dark antemedial line; a discoidal lunule; two postmedial lines, excurved from costa to vein 3, then incurved; cilia with pale points at the veins. Hind wing with the disk rather thinly scaled; an obscure discoidal lunule; a more or less distinct curved maculate subterminal line.

♀. Paler, dull reddish brown; wings with the markings less distinct.

Hab. BRAZIL, Petropolis, type† ♀ in Coll. Schaus, Castro Paraña, 1 ♂. *Exp.*, ♂ 44, ♀ 50 millim.

1690. *Mænas juruana*. (Plate XLIII. fig. 3.)

Motada juruana, Butl. Trans. Ent. Soc. 1878, p. 53; Kirby, Cat. Het. p. 225

♂. Head and thorax fuscous-brown; antennæ with the shaft greyish; femora above and abdomen dorsally yellow. Fore wing fuscous-brown; traces of a diffused dark antemedial line angled below the cell; a dark point in middle of cell and discoidal lunule; an

obscure maculate postmedial line incurved below vein 3. Hind wing whitish; the veins, costal and terminal areas suffused with brown, the last broadly suffused at apex, narrowly towards tornus. Underside of fore wing with the discal area whitish.

Hab. AMAZONS, R. Jurua (*Trail*), 1 ♂ type. *Exp.* 30 millim.

1691. *Mænas azollæ*. (Plate XLIII. fig. 18.)

Palustra azollæ, Berg, Stett. ent. Zeit. xxxviii. p. 258 (1877); id. Ann. Soc. Ent. Fr. (5) vii. p. 191; Burm. Desc. Rep. Arg. v. p. 454; Kirby, Cat. Het. p. 224.

♂. Black-brown; abdomen dorsally fulvous-yellow except at base. Fore wing with discoidal spot and traces of a curved subterminal line. Hind wing ochreous whitish, the inner area tinged with fulvous-yellow; the veins darker; a discoidal lunule; the costal and terminal areas black-brown, with subterminal black spots on veins 5 and 2.

♀. Hind wing black-brown, with some fulvous-yellow at base of inner area.

Hab. ARGENTINA, Buenos Ayres (*Leech*), 1 ♂, 4 ♀. *Exp.*, ♂ 34, ♀ 46 millim.

*1692. *Mænas breveti*.

Trichosoma breveti, Oberth. Bull. Soc. Ent. Fr. (6) ii. p. clxxiv (1882); id. Ét. Ent. ix. p. 36, pl. 3. f. 14; Kirby, Cat. Het. p. 246.

♂. Pale red-brown; palpi and frons blackish, the former pale at tips; antennæ black, the shaft crimson above; femora crimson above; abdomen ochreous, tinged with crimson at sides, a dorsal fascia of diffused blackish hair and a lateral series of spots. Fore wing rather deeper red-brown, with series of pale-edged black spots; subbasal spots on costa and below cell; antemedial conjoined spots from costa to submedian fold and above and below vein 1; medial spots on costa, median nervure, and inner area; a discoidal bar; postmedial spots on costa, beyond lower angle of cell, on vein 2 and inner margin; a subterminal series of pairs of spots below costa and on veins 5 and 2. Hind wing crimson, the costa ochreous; an antemedial black spot on costa and a discoidal spot with another above it on costa; a broad terminal band narrowing somewhat to tornus; the inner area slightly streaked with black.

Hab. ALGERIA, Oran, type † ♂ in Coll. Oberthur. *Exp.* 34 millim.

Genus PSEUDALUS.

Pseudalus, Schaus, J. N. Y. Ent. Soc. iv. p. 135 (1896)..... *limonia*. Type.

Proboscis slight; palpi porrect, not reaching beyond frons; antennæ of male bipectinate to apex with short branches, of female serrate; tibiæ with the spurs short; abdomen of female with large woolly anal tuft. Fore wing with veins 3, 4 from angle of cell; 5 from just above angle; 6 from upper angle; 7, 8, 9, 10, 11 stalked. Hind wing with vein 3 from near angle of cell; 4 absent; 8 stalked with 6, 7, which are coincident.

- A. Fore wing with oblique rufous postmedial line..... *leos*.
 B. Fore wing without oblique postmedial line *limonia*.

*1693. *Pseudalus leos*. (Plate XLIII. fig. 19.)

Idalus leos, Druce, A. M. N. H. (7) i. p. 212 (1898).

♂. Bright sulphur-yellow; palpi, antennæ, pectus, legs, and abdomen orange-yellow. Fore wing with the costal edge brown; an oblique antemedial series of obscure brown spots, the spot on costa most prominent; a prominent round discocellular spot; an oblique minutely waved line from costa just before apex to middle of inner margin. Hind wing yellow with a pinkish tinge.

Hab. ECUADOR, Sarayacu (*Buckley*), 1 ♀ type† in Coll. Druce. *Exp.* 34 millim.

1694. *Pseudalus limonia*.

Pseudalus limonia, Schaus, J. N. Y. Ent. Soc. iv. p. 135 (1896).

♂. Head and thorax bright chrome-yellow; palpi, frons, basal joint of antennæ, and legs bright orange; black points on 1st and 3rd joints of palpi, on extremity of femora and tarsal joints; abdomen white, with lateral series of black points. Fore wing bright chrome-yellow, with three ante-



Fig. 138.—*Pseudalus limonia*, ♂. †.

medial black points, two on discocellulars, and an obliquely curved postmedial series, all of which may be almost obsolete. Hind wing pure white.

♀. Abdomen and hind wing orange, the former with dorsal black points.

Hab. BRAZIL, Lake Iguarassu, 1 ♀ (*H. N. Ridley*), São Paulo (*D. Jones*), 4 ♂. *Exp.*, ♂ 36, ♀ 42 millim. Type † in Coll. Schaus.

Genus **EUERYTHRA**.

Euerythra, Harv. Can. Ent. viii. p. 5 (1876) Type. *phasma*.

Proboscis aborted, minute; palpi correct, reaching just beyond the frons; antennæ of male bipectinate, with moderate branches; head and thorax clothed with rough hair; femora and tibiæ clothed with long hair, the spurs moderate. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 from well above angle; 6, 7 coincident, and 8 shortly stalked with them.

- A. Fore wing with blackish fascia on median nervure..... *phasma*.
 B. Fore wing without blackish fascia on median nervure *trimaculata*.

1695. *Euerythra phasma*.

Euerythra phasma, Harv. Can. Ent. viii. p. 5 (1876); Smith, Pr. U.S. Nat. Mus. x. p. 336, pl. 13. ff. 2, 4; Kirby, Cat. Het. p. 235.

♂. White; palpi brown, crimson above, and with crimson band at extremity of 1st joint; frons crimson at sides; antennæ brown; shoulders with brown stripes, sides of neck crimson; fore legs brown above, the coxæ crimson at sides; mid and hind tibiæ brown at base and extremity; abdomen crimson above except at base and extremity and with two lateral series of black points. Fore wing with irregular black and grey fascia from base of costa along median nervure to end of cell, emitting two antemedial spots on inner area and a



Fig. 139.—*Euerythra phasma*, ♂. 1.

discoidal spot, at end of cell traversing an oblique postmedial band of conjoined quadrate patches, then continued to termen between veins 3 and 4, all the veins on these dark markings bright orange; a terminal series of black points, obsolete towards apex.

Hab. U.S.A., Texas (*Belfrage*), 1 ♂, Grote Coll. 1 ♂ type. *Exp.* 36 millim.

1696. *Euerythra trimaculata*.

Euerythra trimaculata, Smith, Proc. U.S. Nat. Mus. x. p. 336, pl. 13. ff. 3, 5 (1887); Kirby, Cat. Het. p. 235.

♂. White; palpi crimson, with slight brown spots; sides of frons and neck, fore coxæ, and lines at end of femora crimson; branches of antennæ pale brown; fore femora and tibiæ brown above, mid and hind tibiæ brown at base and extremity; abdomen with crimson bands above. Fore wing with oblique antemedial olive-brown band from costa to below cell, the veins crossing it orange, and a point above vein 1; two discoidal points; an oblique series of three conjoined spots from costa before apex and three similar postmedial spots from vein 2 to inner margin, the veins between them orange.

Hab. U.S.A., Texas (*Belfrage*), 1 ♂. *Exp.* 30 millim.

Genus **DIACRISIA.**

	Type.
<i>Diacrisia</i> , Hübn. Verz. p. 169 (1827).....	<i>sannio</i> .
<i>Cyenia</i> , Hübn. Zutr. i. p. 7 (1827), non descr.	<i>tenera</i> .
<i>Cyenia</i> , Hübn. Verz. p. 184 (1827)	<i>sordida</i> .
<i>Rhyparia</i> , Hübn. Verz. p. 183 (1827).....	<i>purpurea</i> .
<i>Euthemonia</i> , Steph. Ill. Brit. Ent., Haust. ii. p. 68 (1828) ...	<i>sannio</i> .
<i>Spilosoma</i> , Steph. Ill. Brit. Ent., Haust. ii. p. 74 (1828)	<i>lubricipeda</i> .
<i>Diaphora</i> , Steph. Ill. Brit. Ent., Haust. ii. p. 77 (1828)	<i>mendica</i> .
<i>Arctinia</i> , Eichw. Zool. Spec. ii. p. 195 (1831)	<i>cæsarea</i> .
<i>Alphæa</i> , Wlk. iii. 683 (1855)	<i>fulvohirta</i> .
<i>Lacydes</i> , Wlk. iii. 685 (1855)	<i>spectabilis</i> .
<i>Alpenus</i> , Wlk. iii. 686 (1855)	<i>maculosa</i> .
<i>Aloa</i> , Wlk. iii. 699 (1855).....	<i>lineata</i> .
<i>Andala</i> , Wlk. iii. 774 (1855)	<i>unifascia</i> .
<i>Isia</i> , Wlk. vii. 1698 (1856)	<i>intricata</i> .
<i>Senura</i> , Wllgrn. Gefv. K. Akad. Förh. xv. p. 214 (1858) ...	<i>lineata</i> .
<i>Thyrgorina</i> , Wlk. xxxi. 317 (1867).....	<i>indica</i> .
<i>Binna</i> , Wlk. xxxi. 319 (1864)	<i>lutescens</i> .
<i>Pyrrharctia</i> , Pack. Proc. Ent. Soc. Philad. iii. p. 120 (1864)...	<i>isabella</i> .
<i>Echlida</i> , Wlk. xxxii. 386 (1865)	<i>indica</i> .
<i>Icambosida</i> , Wlk. xxxii. 400 (1865).....	<i>nigrifrons</i> .
<i>Acymba</i> , Ramb. Cat. Léop. And. ii. p. 235 (1869)	<i>spectabilis</i> .
<i>Egyralpenus</i> , Butl. Cist. Ent. ii. p. 35 (1875)	<i>testacea</i> .
<i>Spilarctia</i> , Butl. Cist. Ent. ii. p. 39 (1875)	<i>lutea</i> .
<i>Leucaloa</i> , Butl. Cist. Ent. ii. p. 44 (1875)	<i>eugraphica</i> .
<i>Epitolmis</i> , Butl. Trans. Ent. Soc. 1877, p. 348	<i>cæsarea</i> .
<i>Rhyparioides</i> , Butl. A. M. N. H. (4) xx. p. 395 (1877)	<i>nebulosa</i> .
<i>Thanatarctia</i> , Butl. A. M. N. H. (4) xx. p. 395 (1877)	<i>infernalis</i> .
<i>Challa</i> , Moore, P. Z. S. 1879, p. 398	<i>bimaculata</i> .
<i>Gonerda</i> , Moore, P. Z. S. 1879, p. 395	<i>perornata</i> .
<i>Hyarias</i> , Swinh. Cat. Het. Mus. Oxon. p. 184 (1892)	<i>metarhoda</i> .
<i>Elpis</i> , Dyar, Ent. News, iv. p. 36	<i>rubra</i> .

Proboscis aborted, minute; palpi porrect, hardly or just reaching beyond the frons; head and thorax clothed with rough hair; tibiæ fringed with hair. Fore wing with vein 3 from near angle of cell; 5 from or from above angle; 6 from or from below upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with vein 3 from near angle of cell; 5 from or from above angle; 6, 7 from upper angle or shortly stalked; 8 from near middle of cell.

SECT. I. (*Diacrisia*). Antennæ of male bipectinate.

- A. Fore wing with the ground-colour green.
 - a. Abdomen green..... *æruginosa*.
 - b. Abdomen pink, with black dorsal bands *lymphasea*.
- B. Fore wing with the ground-colour pure white.
 - a. Hind wing white.
 - a¹. Wings sparsely clothed with hairy scales.
 - a². Tegulæ wholly orange *nigrifrons*.
 - b². Tegulæ edged with orange *phasma*.
 - c². Tegulæ without orange.
 - a³. Abdomen crimson or tinged with crimson above.
 - a⁴. Fore wing without spots on costa.
 - a⁵. Fore wing without oblique post-medial line from vein 5 towards inner margin *inæqualis* (♀).
 - b⁵. Fore wing with oblique postmedial line from vein 5 towards inner margin *rhodophila*.

- b*⁴. Fore wing with antemedial, medial, and postmedial spots on costa *costimacula*.
*b*³. Abdomen not tinged with crimson above.
*a*⁴. Abdomen with dorsal and lateral series of black spots.
*a*⁵. Fore wing with black point in upper angle of cell.
*a*⁶. Fore wing with antemedial series of spots angled on median nervure and oblique series from apex *multivittata*.
*b*⁶. Fore wing with curved antemedial and subterminal series of spots... *indica*.
*b*⁵. Fore wing without black point in upper angle of cell *melanosoma*.
*c*⁵. Fore wing with antemedial spot on median nervure and subterminal spot above vein 5 *mendica* ♀.
*b*⁴. Abdomen without dorsal and lateral series of black spots *latipennis*.
*b*¹. Wings thickly and smoothly scaled.
*a*². Abdomen with the dorsal surface white.
*a*³. Abdomen with pink subdorsal patches... *nivea*.
*b*³. Abdomen with yellow subdorsal patches.
*a*⁴. Fore wing without black point at lower angle of cell *pura*.
*b*⁴. Fore wing with black point at lower angle of cell.
*a*⁵. Abdomen of male with the lateral black spots almost obsolete; hind wing without black points..... *jussieuæ*.
*b*⁵. Abdomen of male with the lateral black spots well developed; hind wing with discoidal and subterminal points almost always developed. *virginica*.
*b*². Abdomen dorsally crimson or orange.
*a*³. Fore wing with the markings consisting of more or less developed black points.
*a*⁴. Abdomen crimson above.
*a*⁵. Shoulders with crimson stripes..... *alba*.
*b*⁵. Shoulders without crimson stripes.
*a*⁶. Abdomen with dorsal black spots.
*a*⁷. Fore wing with series of black points *punctaria*.
*b*⁷. Fore wing with black spot in upper angle of cell and two medial spots on inner area..... *robusta*.
*b*⁶. Abdomen with dorsal black bands.
*a*⁷. Abdomen with the base and extremity white *erythrozona*.
*b*⁷. Abdomen with the base and extremity crimson *erythrastis*.
*b*⁴. Abdomen orange above.
*a*⁵. Tegulæ edged with orange.
*a*⁶. Tegulæ and patagia with black points *punctulata*.
*b*⁶. Tegulæ and patagia without black points *euproctina*.
*b*⁵. Tegulæ not edged with orange.
*a*⁶. Hind wing without discoidal black point *urticæ*.

- b⁶. Hind wing with discoidal black point.
 a⁷. Hind wing with at most three subterminal black points *lubricipeda*.
 b⁷. Hind wing with the terminal area more or less strongly irrorated with fuscous spots..... *aspersa*.
 b³. Fore wing with maculate bands.
 a⁴. Patagia with brown patches *spectabilis*.
 b⁴. Patagia with black points *unifascia*.
 c³. Fore wing with black stripes..... *lewisi*.
 b. Hind wing orange *chionea*.
 C. Fore wing yellowish white, buff, yellow, or orange sometimes tinged with crimson.
 a. Hind wing with the ground-colour whitish or buff.
 a¹. Fore wing with dark brown fascia on costal area towards apex *scortilla*.
 b¹. Fore wing without brown fascia on costa towards apex.
 a². Fore wing with antemedial, medial, and postmedial lines.
 a³. Fore wing not irrorated with brown ... *curvilinea*.
 b³. Fore wing irrorated with brown *aurantiaca* ♂.
 b². Fore wing with series of spots or maculate bands.
 a³. Abdomen orange above.
 a⁴. Fore wing whitish to buff.
 a⁵. Tegulæ edged with yellow.
 a⁶. Fore wing yellowish white *imparilis* ♀.
 b⁶. Fore wing buff.
 a⁷. Fore wing with more or less complete angled dark bands on upperside *bifurca*.
 b⁷. Fore wing without bands on upperside *rava*.
 b⁵. Tegulæ not edged with yellow.
 a⁶. Tegulæ with black points *maculosa*.
 b⁶. Tegulæ without black points.
 a⁷. Fore wing with black fascia on basal part of costa *melanostigma*.
 b⁷. Fore wing with antemedial black or fuscous spot or point on costa.
 a⁸. Fore wing without short subterminal streaks on each side of median nervules.
 a⁹. Patagia with black points.
 a¹⁰. Fore wing with the markings black..... *subfascia*.
 a¹⁰. Fore wing with the markings fuscous *guttata*.
 b⁹. Patagia without black points.
 a¹⁰. Femora crimson above *obliqua* ab. *todara* ♀.
 b¹⁰. Femora orange above.
 a¹¹. Fore wing without black point at base *lutea*.
 b¹¹. Fore wing with black point at base.
 a¹². Fore wing with the disk not suffused with brown. *punctata* ♂.
 b¹². Fore wing with the disk suffused with brown ... *fuscitincta* ♂.

- b*⁸. Fore wing with short subterminal streaks on each side of median nervules *mona*.
*c*⁷. Fore wing without antemedial black spot or point on costa.
*a*⁸. Fore wing with incomplete series of points from apex.
*a*⁹. Palpi crimson at base *obliqua* ab. *dalbergiae*.
*b*⁹. Palpi yellow at base *punctata* ♀.
*c*⁹. Palpi dark at base.
*a*¹⁰. Abdomen with dorsal series of black spots *casigneta* ab.
*b*¹⁰. Abdomen with dorsal black bands.
*a*¹¹. Antennæ with the branches short and black *testacea*.
*b*¹¹. Antennæ with the branches long and brown *scioana*.
*b*⁸. Fore wing with oblique maculate band from apex to middle of inner margin..... *obliquivitta*.
*c*⁸. Fore wing with curved subterminal series of spots from costa before apex.
*a*⁹. Fore wing without medial and angled postmedial series of spots *sparsipuncta*.
*b*⁹. Fore wing with medial and angled postmedial series of spots *flavens*.
*b*⁴. Fore wing orange *flavalis*.
*b*³. Abdomen crimson above.
*a*⁴. Fore wing bright yellow *jankowski*.
*b*⁴. Fore wing orange tinged with crimson.
*a*⁵. Fore wing with the veins not scarlet. *rubitincta*.
*b*⁵. Fore wing with the veins scarlet..... *erythrophleps*.
*c*⁴. Fore wing buff or yellowish white.
*a*⁵. Fore wing with black fascia on base of costa.
*a*⁶. Fore wing with black fascia on middle of inner margin.
*a*⁷. Fore wing with the postmedial maculate band complete *bifasciata*.
*b*⁷. Fore wing with the postmedial maculate band more or less obsolete *comma*.
*b*⁶. Fore wing without black fascia on middle of inner margin..... *seriatopunctata*.
*b*⁵. Fore wing without black fascia on base of costa.
*a*⁶. Fore wing yellowish white.
*a*⁷. Patagia without black stripes.
*a*⁸. Fore wing with oblique antemedial line from costa *canescens*.
*b*⁸. Fore wing without oblique antemedial line from costa *stigmata*.
*b*⁷. Patagia with black stripes *leopardina*.
*b*⁶. Fore wing buff.
*a*⁷. Fore wing with series of points.
*a*⁸. Palpi crimson at base.

- a*⁹. Fore wing with complete series of points from apex to inner margin *inæqualis* ♂.
*b*⁹. Fore wing with incomplete series of points from apex ... *obliqua*.
*b*⁸. Palpi dark at base *casigneta*.
*c*⁸. Palpi pale at base; fore wing with postmedial points from vein 5 to inner margin only ... *infernalis* ♀ ab.
*b*⁷. Fore wing with diffused fuscous postmedial band *infernalis* ♀.
*c*³. Abdomen brownish with black bands... *ornata* ♂.
*c*². Fore wing with crimson and fuscous discoidal patch and crimson fascia on inner margin *sannio* ♂.
b. Hind wing orange or yellow. *flaveola*.
*a*¹. Abdomen crimson above
*b*¹. Abdomen orange above.
*a*². Fore wing with antemedial, medial, and postmedial lines..... *aurantiaca* ♀.
*b*². Fore wing with series of black spots.
*a*³. Fore wing yellowish white..... *multiguttata*.
*b*³. Fore wing buff.
*a*⁴. Fore wing with antemedial black spot on costa.
*a*⁵. Fore wing not suffused with brown.
*a*⁶. Hind wing without black suffusion in and below cell.
*a*⁷. Fore wing without medial series of points *lutea* ab.
*b*⁷. Fore wing with angled medial series of points *diplosticta*.
*b*⁶. Hind wing with black suffusion in and below cell *gopara*.
*b*⁵. Fore wing suffused in part with brown *fuscitincta* ♀.
*b*⁴. Fore wing without antemedial black spot on costa *punctata* ab. *ummera*.
*c*². Fore wing with black discoidal lunule *quadrilunata*.
*d*². Fore wing with black point in upper angle of cell.
*a*³. Fore wing with some postmedial points. *metaxantha*.
*b*³. Fore wing without postmedial points ... *bimaculata*.
*e*². Fore wing with black point at lower angle of cell *lucida*.
*f*². Fore wing without markings.
*a*³. Fore wing bright yellow *flava*.
*b*³. Fore wing orange-yellow *madagascariensis*.
*g*². Fore wing with the veins streaked with black.
*a*³. Fore wing orange-yellow *costata*.
*b*³. Fore wing pale yellow *peloepa*.
*h*². Fore wing with the interspaces streaked with fuscous.
*a*³. Hind wing with the interspaces not streaked with fuscous.
*a*⁴. Fore wing with the fuscous streaks narrow except in discal and submedian folds *lutescens*.
*b*⁴. Fore wing with the fuscous streaks nearly filling the interspaces *rhodesiana*.

- b*³. Hind wing with fuscous streaks in the interspaces..... *scita*.
c. Hind wing fuscous black with the cilia yellow... *latiradiata*.
d. Hind wing crimson or strongly tinged with crimson.
*a*¹. Hind wing with postmedial black band.
*a*². Fore wing with black stripe below median nervure *bretaudiaui*.
*b*². Fore wing without black stripe below median nervure..... *perornata*.
*b*¹. Hind wing without postmedial black band
*a*². Fore wing without medial series of spots or maculate band.
*a*³. Fore wing with black fascia on base of costa.
*a*⁴. Fore wing with black fascia on middle of inner margin..... *sparsalis*.
*b*⁴. Fore wing without black fascia on middle of inner margin [rosacea.
*b*³. Fore wing without black fascia on base of costa. *seriatopuncta* ab.
*a*⁴. Fore wing with dentate black subterminal line *dentilinea*.
*b*⁴. Fore wing without dentate black subterminal line.
*a*⁵. Fore wing buff *obliqua* ab. *confusa*.
*b*⁵. Fore wing yellow.
*a*⁶. Fore wing with the veins not streaked with red.
*a*⁷. Fore wing with four fuscous spots on costa..... *purpurata*.
*b*⁷. Fore wing without fuscous spots on costa *amurensis*.
*b*⁶. Fore wing with the veins more or less strongly streaked with scarlet.
*a*⁷. Hind wing with the basal area not suffused with black..... *metalkana*.
*b*⁷. Hind wing with the basal area suffused with black *sannio* ♀.
*b*². Fore wing with two medial series of spots.
*a*³. Fore wing with the medial series of spots angled on median nervure *flammeola*.
*b*³. Fore wing with the medial series of spots curved..... *biseriata*.
*c*². Fore wing with medial maculate band forking towards costa.
*a*³. Fore wing orange-red *eximia*.
*b*³. Fore wing yellow..... *ornata* ♀.
D. Fore wing brown-buff to red-brown.
a. Antennæ black.
*a*¹. Hind wing crimson or strongly tinged with crimson.
*a*². Fore wing with antemedial black point on costa *obliqua* ab. *todara* ♂.
*b*². Fore wing without antemedial black point on costa.
*a*³. Fore wing with antemedial and postmedial reddish lines *longiramia*.

- b*³. Fore wing with postmedial maculate black line.
*a*⁴. Antennæ with the shaft black above ... *montana*.
*b*⁴. Antennæ with the shaft white above... *albicornis*.
*c*³. Fore wing with postmedial series of well-separated spots *castanea* ♀.
*b*¹. Hind wing buff.
*a*². Fore wing with ante- and postmedial scarlet lines with series of black points on them... *rubilinea*.
*b*². Fore wing without scarlet lines.
*a*³. Fore wing with the veins not streaked with black *sordidescens*.
*b*³. Fore wing with the veins streaked with black *tigrina*.
*c*¹. Hind wing black-brown.
*a*². Fore wing with postmedial series of irregular spots *castanea* ♂.
*b*². Fore wing with postmedial series of small spots on each side of the veins *brunnea*.
b. Antennæ whitish.
*a*¹. Hind wing crimson or tinged with crimson.
*a*². Fore wing with dark patches on costa *rufescens*.
*b*². Fore wing with black antemedial and medial spots on costa *moorei*.
*c*². Fore wing without dark patches on costa... *strigatula*.
*b*¹. Hind wing brown *landaca*.
*c*¹. Hind wing ochreous grey *vagans*.
c. Antennæ scarlet *rubra*.
E. Fore wing grey, grey-brown, or blackish.
a. Fore wing without series of white spots.
*a*¹. Abdomen orange above.
*a*². Tegulæ edged with orange..... *imparilis* ♂.
*b*². Tegulæ not edged with orange.
*a*³. Fore wing with whitish fascia in submedian fold *melæna*.
*b*³. Fore wing without whitish fascia in submedian fold.
*a*⁴. Hind wing with the ground-colour white *garida*.
*b*⁴. Hind wing grey-brown.
*a*⁵. Antennæ with the shaft black *phæa*.
*b*⁵. Antennæ with the shaft pale *turensis*.
*b*¹. Abdomen brown.
*a*². Fore wing without discoidal black points... *fuscipennis*.
*b*². Fore wing with discoidal black points.
*a*³. Fore wing with blackish points on the cilia.
*a*⁴. Fore wing with postmedial line ex-curved beyond cell..... *sordida*.
*b*⁴. Fore wing without or with hardly a trace of postmedial line..... *luctuosa*.
*b*³. Fore wing without points on the cilia ... *mendica*.
*c*¹. Abdomen crimson above.
*a*². Fore wing grey suffused with fuscous brown *sikkimensis*.
*b*². Fore wing black-brown *infernalis* ♂.
b. Fore wing with series of white spots.
*a*¹. Hind wing with the ground-colour white ... *fulvohirta*.
*b*¹. Hind wing with the ground-colour pale yellow. *impleta*.
F. Fore wing fuscous black *cæsarea*.

1697. *Diacrisia æruginosa*.

Arctia æruginosa, Feld. Reis. Nov. pl. 101. f. 14 (1874); Kirby, Cat. Het. p. 202.

Pale blue-green; antennæ ochreous; palpi pale pink; legs striped with pink. Fore wing with the costa and extremities of cilia ochreous. Hind wing greenish white.

Hab. COLOMBIA, Bogotá, 2 ♂, 1 ♀. *Exp.* 56 millim. Type in Coll. Rothschild.

*1698. *Diacrisia lymphasea*.

Phragmatobia lymphasea, Dogn. Le Nat. 1892, p. 16; id. Léop. Loja, p. 88, pl. 9. f. 3; Kirby, Cat. Het. p. 911.

♀. Green; palpi fuscous, fringed with pink hair; sides of frons, antennæ, a ring round neck, fore coxæ, and legs above pink; abdomen dorsally pink, with short black dorsal bands. Fore wing with the costal edge pinkish, the cilia yellow. Hind wing very pale greenish.

Hab. ECUADOR, Loja, type ♀ in Coll. Dognin. *Exp.* 62 millim.

1699. *Diacrisia nigrifrons*.

Icambosida nigrifrons, Wlk. xxxii. 401 (1865); Butl. Ill. Het. v. p. 29, pl. 85. f. 3; Hmps. Moths Ind. ii. p. 12; Kirby, Cat. Het. p. 238.

Pure white; palpi black, fringed with orange below; sides of frons and antennæ black, the latter with some white on shaft; tegulæ orange; fore coxæ orange, legs striped with black above; abdomen orange above except at base and extremity, with dorsal, lateral, and sublateral series of black spots; wings immaculate.

Ab. 1. Hind wing with subterminal fuscous spot above vein 5 and three towards tornus.—Khásis.

Hab. SIKHIM (*Atkinson*, *Lidderdale*, *Dudgeon*), 6 ♂, 1 ♀ type; ASSAM, Khásis, 1 ♂. *Exp.* 40 millim.

1700. *Diacrisia phasma*. (Plate XLIV. fig. 17.)

Thyrgorina phasma, Leech, Trans. Ent. Soc. 1899, p. 159.

♂. Dull white; palpi black, yellowish at base and fringed with yellowish in front; sides of frons and antennæ black, the latter with the shaft white above; tegulæ edged with orange; patagia with black points; legs blackish above, fore coxæ with some yellowish hair; abdomen orange above, with some white hair at base, dorsal, lateral, and sublateral series of black spots. Fore wing with blackish antemedial spot on costa, a curved series of pale brownish spots arising beyond it at subcostal nervure; a blackish spot in upper angle of cell with another on costa above it; a series of pale brownish spots just beyond the cell, angled at lower angle, then oblique; a slightly sinuous postmedial series of spots connected with apex by an oblique series; a subterminal series

between veins 5 and 3. Hind wing with indistinct pale brownish subterminal spots between vein 3 and tornus.

Hab. W. CHINA, Kwei-chow, 1 ♂, Pu-tsu-fong, 1 ♂ type, Kia-ting-fu, 1 ♂. *Exp.* 42 millim.

1701. *Diacrisia rhodophila*.

Spilosoma rhodophila, Wlk. xxxi. 294 (1864); Butl. Ill. Het. B. M. v. p. 29, pl. 85. f. 4; Hmps. Moths Ind. ii. p. 15; Kirby, Cat. Het. p. 234.

Spilosoma rubidorsa, Moore, P. Z. S. 1865, p. 808; Kirby, Cat. Het. p. 233.

Iambosida dorsalis, Moore, P. Z. S. 1888, p. 394; Butl. Ill. Het. B. M. vii. p. 29, pl. 122. ff. 4, 5; Kirby, Cat. Het. p. 234.

Pure white; palpi black, crimson at base; sides of frons and antennæ black; neck with crimson patches at sides; legs striped with black above, the fore coxæ and femora above crimson; abdomen crimson above except at base and extremity, with dorsal, lateral, and sublateral series of black spots. Fore wing with the costal edge often ochreous; an antemedial fuscous point in cell sometimes present; a spot in upper angle of cell; an oblique post-medial series of spots from vein 4 to inner margin, sometimes curved round to below costa and connected with apex by an oblique series of short streaks on each side of the veins; a subterminal series of short streaks on each side of veins 5 to 3 usually present. Hind wing with fuscous discoidal spot; subterminal spots below costa above vein 5 and one to four towards tornus often present.

Hab. W. CHINA, Omei-shan, 2 ♂, Chang-yang (*Pratt*), 1 ♂, Pu-tsu-fong, 4 ♂, Moupin (*Kricheldorf*), 1 ♂, 1 ♀; N.W. HIMALAYAS, Dalhousie (*Powell*), 2 ♂, Kangra (*Hocking*), 4 ♂, 4 ♀ type *dorsalis*, Kulu (*G. Young*), 1 ♂; SIKHIM (*Russell*), 1 ♂, (*Dudgeon*) 5 ♂, type. *Exp.*, ♂ 40, ♀ 50 millim.

Larva. Butl. Ill. Het. vii. p. 121, pl. 138. f. 4.

Head red-brown; dorsal area dark brown, with a series of short white streaks; lateral area pale brown, with pale streaks and tufts of long hair arising from the yellow warts. Food-plant, Cherry.

1702. *Diacrisia costimacula*. (Plate XLIV. fig. 6.)

Thyrgorina costimacula, Leech, Trans. Ent. Soc. 1899, p. 158.

Pure white; palpi, frons at sides, and antennæ black-brown; neck with lateral crimson patches; legs blackish above, fore coxæ with some crimson hair; abdomen crimson above, with dorsal and lateral series of black spots. Fore wing with fuscous subbasal spot below costa; three short antemedial streaks on and below costa; a point in upper angle of cell with spot on costa above it; an oblique maculate line from costa just before apex to middle of inner margin. Hind wing with discoidal spot and two slight subterminal spots towards tornus.

Hab. W. CHINA, Washan, 1 ♂ type, Chia-ting-fu, 1 ♀, Moupin, 1 ♂ 1 ♀. *Exp.* 38 millim.

1703. *Diacrisia multivittata*. (Plate XLIV. fig. 22.)

Spilosoma multivittata, Moore, P. Z. S. 1865, p. 808; Hmps. Moths Ind. ii. p. 12; Kirby, Cat. Het. p. 233.

White with a slight yellowish tinge; palpi and lower part of frons black; antennæ black; shoulders with orange patches; legs black above; abdomen orange above except at base and extremity, dorsal, lateral, and sublateral series of black spots. Fore wing with oblique subbasal series of black spots expanding on costa; an antemedial maculate band, expanding at costa and acutely angled on median nervure; a spot in upper angle of cell; a postmedial maculate band angled beyond lower end of cell, where it is connected with apex by an oblique series of spots, three spots beyond it between vein 2 and inner margin, and short subterminal streaks on each side of veins 5 to 3 and two points towards tornus. Hind wing with discoidal spot; subterminal spots below costa, above vein 5, and four towards tornus, or a complete series.

Ab. 1. Frons only black at sides; shoulders with small yellow patches; wings immaculate.

Hab. SIKHIM (Russell), 1 ♂ type; (Lidderdale, Dudgeon) 4 ♂, 3 ♀. Exp., ♂ 38, ♀ 44 millim.

1704. *Diacrisia indica*.

Arctia indica, Guér. Deless. Souv. Inde, ii. p. 93 (1843); Hmps. Moths Ind. ii. p. 12; Kirby, Cat. Het. p. 230.

Thyrgorina spilosomata, Wlk. xxxi. 318 (1864); Kirby, Cat. Het. p. 233.

Echlida subjecta, Wlk. xxxii. 387 (1865); Kirby, Cat. Het. p. 233.

♂. White with a slight yellowish tinge; palpi, sides of frons, and antennæ blackish; shoulders with yellow patches; legs striped with black above; abdomen orange above, with some whitish hair at base, dorsal and lateral series of black points. Fore wing with the basal half of costa black, the terminal half yellowish; a curved antemedial series of spots; a spot in upper angle of cell, forming part of a postmedial series angled beyond lower end of cell, then oblique; a subterminal series of spots curved out to tornus and with the spot above vein 5 elongate. Hind wing with discoidal spots; a subterminal spot above vein 5 and four towards tornus.

Ab. 1. Fore wing with the spots in the series reduced to those towards costa and inner margin.

Ab. 2. Fore wing with the spots reduced to one in upper angle of cell.

♀. Fore wing with the spots more or less reduced.

Ab. 3. *spilosomata*. Wings immaculate.

Hab. BOMBAY (Leith), 2 ♂; NILGIRIS (Hampson), 3 ♂, 4 ♀;



Fig. 140.

Diacrisia indica, ♂. 1.
(From Moths Ind. vol. ii.)

COIMBATORE (*Walkhouse*), 1 ♂ type *subjecta*, 1 ♀ type *spilosomata*.
Exp., ♂ 32, ♀ 42 millim.

1705. *Diacrisia melanosoma*. (Plate XLIV. fig. 3.)

Thyrgorina melanosoma, Hmps. Moths Ind. ii. p. 15 (1894).

♂. Pure white; palpi black above, orange below; frons black at sides; antennæ brown; shoulders with orange or orange-crimson patches; fore coxæ orange; legs striped with black above; abdomen white banded with black above, or more or less orange above with the bands reduced to spots or sometimes obsolete; wings sometimes immaculate. Fore wing sometimes with oblique postmedial series of fuscous spots from vein 5 to 2 and some subterminal short streaks on each side of veins 6 to 3. Hind wing sometimes with discoidal fuscous spot, and subterminal spot above vein 5 and one to four towards tornus.

Hab. W. CHINA, Washan (*Pratt*), 1 ♀; N.W. HIMALAYAS, Simla (*Harford*), 2 ♂, 4 ♀, Dalhousie (*Harford*), 3 ♂, 2 ♀, Murree, 1 ♂, Abbotabad (*Yerbury*), 1 ♀, Kulu (*G. Young*), 1 ♀; SIKHIM, 2 ♂, 1 ♀; ASSAM, Khâsis. *Exp.*, ♂ 36, ♀ 46 millim. Type † in Coll. Elwes.

1706. *Diacrisia latipennis*.

Spilosoma latipennis, Stretch, Zyg. & Bomb. N. Am. p. 133, pl. 6. f. 5 (1872); Kirby, Cat. Het. p. 229.

♀. Pure white; antennæ with the branches black; fore coxæ and femora above pink, the tibia and tarsus streaked with black; wings thinly scaled.

Hab. U.S.A., Atlantic States, Grote Coll., 1 ♀. *Exp.*, ♂ 40, ♀ 46 millim.

Egg. Soule, Psyche, vii. p. 71.

Hemispherical, flattened at base; yellowish white.

Larva. Young: Pale yellowish with long blackish hair; head with lateral dark spots, the mouth-parts pinkish; three dorsal series of dark warts and a dark spot on 10th somite.

Stages 2, 3. Without dark warts or spots except on head; the hair white, black on dorsum.

Stage 4. Interrupted subdorsal and lateral series of grey points; warts pale yellow, with a bright yellow one on each side of 10th somite; hair longer anteriorly and posteriorly.

Stage 5. Body grey, with darker subdorsal and lateral lines; warts on 10th somite pale yellow and prominent, elsewhere grey; hairs grey with a few white ones at extremities.

Stage 6. Hairs tan-coloured with a few long black ones; spiracles white, largest on 10th somite.

Stage 7. Head yellow-brown with dark brown upper half; body dark velvety brown; hair black, tan towards base; spiracles very prominent, white.

1707. *Diacrisia nivea*.

Dionychopus niveus, Mén. Bull. Phys. Math. Pét. xvii. p. 218 (1859); Schrenck's Reisen, Lep. ii. p. 52, pl. 4. f. 6; Kirby, Cat. Het. p. 229.

Pure white; palpi crimson at base, the 3rd joint black; antennæ with the branches black; fore coxæ and the femora above crimson; fore coxæ with black patch; fore legs streaked with black; abdomen with crimson lateral patches except at base and extremity, dorsal and lateral series of black spots; wings without markings.

Hab. AMUR, 3 ♂, 1 ♀; JAPAN, Yezo (*Andrews*), 1 ♂ (*Pryer*, *Fenton*), 2 ♂, 3 ♀, Oiwake (*Pryer*), 1 ♂, 1 ♀; W. CHINA, Changyang, 2 ♂, Ta-Chien-lu (*Pratt*), 1 ♀. *Exp.*, ♂ 70, ♀ 80 millim.

1708. *Diacrisia pura*. (Plate XLIV. fig. 10.)

Spilosoma purum, Leech, Trans. Ent. Soc. 1899, p. 151.

Pure white; palpi black at sides; antennæ with the branches blackish below; legs striped with black; fore coxæ at sides and femora above orange; abdomen with subdorsal orange patches, a dorsal series of small round or triangular spots or short bands, lateral or sublateral series of spots; wings with the discocellulars brownish on underside.

Hab. W. CHINA, Omei-shan, Chia-kou-ho, 3 ♂, 1 ♀, Kwei-chow, 1 ♂, Washan, 3 ♂, 3 ♀ type. *Exp.* 50–60 millim.

1709. *Diacrisia jussieuæ*. (Plate XLIV. fig. 18.)

Arotia jussieuæ, Poey, Cent. Lep. Cuba, pl. 14 (1832); Kirby, Cat. Het. p. 228.

Pure white; palpi and fore tibiæ streaked with black; tarsi ringed with black; femora orange above; abdomen with dorsal series of black points; diffused orange lateral fasciæ. Fore wing with black point at lower angle of cell.

Hab. CUBA (*Ruiz*), 2 ♂, 3 ♀. *Exp.*, ♂ 32, ♀ 40 millim.

1710. *Diacrisia virginica*.

Bombyx virginica, Fabr. Ent. Syst. Suppl. p. 437 (1798); Harr. Ins. Inj. Veg. p. 248; id. ed. 3, p. 350, ff. 167, 168; Riley, Rep. Ins. Missouri, iii. p. 68, f. 28; Stretch, Zyg. & Bomb. N. Am. p. 131, pl. 6. f. 6; Kirby, Cat. Het. p. 228.

Spilosoma congrua, Wlk. iii. 669 (1855) ♀; Kirby, Cat. Het. p. 234.

Pure white; palpi black at sides; antennæ with the branches blackish; fore legs streaked with black, the tarsi banded with black; femora yellow above; abdomen orange-yellow at sides, dorsal, lateral, and sublateral series of black spots. Fore wing usually with black point at lower angle of cell and sometimes one at angle of discocellulars; a postmedial point above inner margin and subterminal point above vein 5. Hind wing with discoidal

black spot; a subterminal spot below vein 2 and often one above vein 5.

Fore wing with vein 10 abnormally from cell or from 11, which is sometimes stalked with 7, 8, 9; in one specimen veins 4, 5 on one side are represented by a short spur.

Hab. CANADA, Hudson's Bay, Renfrew Coast, Nova Scotia; VANCOUVER Is. (*J. J. Walker*); U.S.A., Atlantic States, Trenton Falls, Georgia, type *congrua* ♀; MEXICO, Durango (*Becker*), 2 ♂, 1 ♀, Salvin-Godman Coll. *Exp.* 44–54 millim.

Larva. Pack, Ann. N. Y. Ac. viii. p. 78; Dyar, J. N. Y. Ent. Soc. v. p. 131.

Young: Pale greenish; head large, dark chestnut-brown; piliferous warts dark chestnut, conical; hairs blackish, very long; prothoracic shield crescent-shaped, with two series of warts.

Full-grown: Body dull black with white segmental incisions; the hair black, with a reddish streak on abdominal somites, or all the hair is foxy red except on 1st somite and the sublateral hair on 2nd and 3rd somites; head small, black, the clypeus, antennæ, labrum, and mouth-parts greenish.

1711. *Diacrisia alba*.

Chelonia alba, Brem. Schmett. N. China, p. 15 (1853); Kirby, Cat. Het. p. 229.

Dionychopus rubidus, Leech, Entom. xxiii. p. 111 (1880); Kirby, Cat. Het. p. 229.

Spilosoma leucoptera, Alph. Rom. Mém. ix. p. 170, pl. 10. f. 8 (1897).

Pure white; palpi and frons at sides and antennæ black; shoulders with black points; crimson stripes just below shoulders and wings; legs striped with black above, the fore coxæ crimson with black spots, femora crimson above; abdomen crimson above, with dorsal black points on medial segments and lateral and sublateral series. Fore wing with black point at base, sometimes with fuscous medial points above vein 1 and base of vein 2; a point beyond lower angle of cell and short streak above vein 5. Hind wing with discoidal spot, and sometimes subterminal spots above vein 5 and two towards tornus.

Hab. COREA; C. and W. CHINA, Chang-yang, 2 ♀, Moupin (*Kricheldorf*), 1 ♂, 1 ♀ type *rubidus*. *Exp.* 60 millim.

1712. *Diacrisia punctaria*.

Bombyx punctaria, Stoll, Pap. Exot. iv. pl. 398, D (1782); Kirby, Cat. Het. p. 228.

Arctia punctigera, Motsch. Ét. Ent. ix. p. 31 (1860).

Spilosoma roseiventer, Voll. Tidskr. Ent. vi. p. 143 (1863).

Spilosoma dornesii, Oberth. Diagn. Lep. Askold, p. 6 (1879); id. Ét. Ent. v. p. 31, pl. 1. f. 7.

Pure white; palpi, antennæ, and streaks on legs black; femora above crimson; abdomen crimson above except basal and terminal segments, dorsal, lateral, and sublateral series of black spots. Fore wing with basal and subbasal points below costa; antemedial and medial series of a few points angled on median nervure; points

at angles of cell ; a few postmedial points ; a subterminal series of points on each side of the veins, incurved below costa ; some points on termen. Hind wing with discoidal spot ; subterminal spots below costa and near veins 5 and 2.

Fore wing with the number of points often much reduced.

Hab. JAPAN (*Fenton, Jones, Lewis*), 3 ♂, 3 ♀, Yokohama (*Manley*), 2 ♂, Nagasaki (*Leech*), 1 ♂, 1 ♀, Hakodate, 1 ♀, Oiwake (*Pryer*), 1 ♀ ; COREA, Gensan (*Leach*), 1 ♂, 1 ♀ ; CHINA, Shanghai (*Pryer*), 1 ♀, Ningpo (*Leech*), 1 ♀, Chia-kou-ho (*Pratt*), 1 ♂, 1 ♀, Kweichow, 1 ♀, Moupin (*Kricheldorf*), 1 ♀. *Exp.*, ♂ 42, ♀ 48 millim.

1713. *Diacrisia robusta*. (Plate XLIV. fig. 14.)

Spilosoma robustum, Leech, Trans. Ent. Soc. 1899, p. 149.

White ; palpi scarlet at base, black at tips ; antennæ black ; shoulders and patagia with black points in male ; crimson streaks below the base of wings ; fore coxæ at sides and femora above scarlet ; the fore coxæ, tibiæ, and tarsi striped with black ; abdomen scarlet, suffused with crimson above, dorsal, lateral, and sublateral series of black spots. Fore wing with black spot in upper angle of cell ; medial spots above and below vein 1, and sometimes a subterminal point below vein 6. Hind wing with discoidal spot, and sometimes a postmedial point below vein 2 and a subterminal point below vein 1.

Hab. W. CHINA, Moupin (*Kricheldorf*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 62, ♀ 70 millim.

1714. *Diacrisia erythrozona*. (Plate XLIV. fig. 21.)

Euprepia erythrozona, Koll. Hügel's Kaschmir, iv. p. 468 (1844) ; Hmps. Moths Ind. ii. p. 11 ; Kirby, Cat. Het. p. 232.

Spilosoma cognata, Wlk. Char. Undescr. Het. p. 11 (1869) ; Kirby, Cat. Het. p. 234.

Pure white ; palpi and branches of antennæ black ; legs streaked with black ; fore femora crimson above ; abdomen crimson above with black bands, the base and extremity white ; a sublateral series of black points. Fore wing with the costal edge black in male to beyond middle ; a black point at lower angle of cell and sometimes a subterminal point above vein 5. Hind wing usually with discoidal spot, and sometimes subterminal spots above vein 5 and below 2.

Hab. N.W. HIMALAYAS, type ♂ *cognata*, Kashmir (*Leech*), 3 ♂, 3 ♀, Dalhousie (*Harford*), 11 ♂, 4 ♀, Dharmasála (*Hocking*), 1 ♂, 1 ♀. *Exp.*, ♂ 42, ♀ 46 millim.

*1715. *Diacrisia erythrastis*. (Plate XLIV. fig. 8.)

Spilosoma erythrastis, Meyr. P. Linn. Soc. N. S. W. (2) i. p. 753 (1886) ; Kirby, Cat. Het. p. 263.

Spilosoma frenchii, Lucas, P. Soc. Queensl. xiii. p. 59 (1898).

♂. Head and thorax pure white ; palpi at tips, antennæ, spots on tegulæ and patagia, and a stripe on vertex of thorax black ;

abdomen crimson, with dorsal series of short segmental bands except on basal segments, and lateral series of spots. Fore wing pure white; a short black streak on base of costa; a spot at base and three obliquely-placed subbasal points; an antemedial spot on costa with semicircular mark below it; an irregular spot on middle of costa; five spots curved round lower angle of cell and two spots above inner margin; a triangular spot on costa beyond middle with two spots below it; a point below vein 2 and double spot on inner margin; a subterminal incomplete series of points on each side of the veins and some points on termen. Hind wing crimson; a black spot at upper angle of cell; a subterminal spot above vein 5 and two spots towards tornus; cilia white.

Hab. N. AUSTRALIA, Lizard I., type + ♂ in Coll. Meyrick; QUEENSLAND. *Exp.* 46 millim.

1716. *Diacrisia punctulata*.

Spilosoma punctulatum, Willgrn. Wien. ent. Mon. iv. p. 161 (1860); Kirby, Cat. Het. p. 239.

Spilosoma auricinctum, Butl. P. Z. S. 1896, p. 847, pl. 42. f. 6.

Pure white; palpi at sides, antennæ, spots on tegulæ and patagia, and streaks on legs black; back of head, edges of tegulæ, and femora above orange; abdomen orange above, except the basal and terminal segments, dorsal, lateral, and sublateral series of black spots. Fore wing with the retinaculum of male white; a subbasal black point in cell; an antemedial series of four points angled on median nervure; a medial point on costa and points at angles of cell. Hind wing with small discoidal spot and subterminal spots above vein 5 and below 2.

Mashonaland specimens have the points greater in number.

Hab. NYASALAND (*Crawshay*), 1 ♀ type; MASHONALAND, Salisbury (*Marshall*), 3 ♂, 1 ♀. *Exp.* 48 millim.

*1717. *Diacrisia euproctina*.

Spilosoma euproctina, Auriv. Ent. Tidskr. 1899, p. 240.

♂. Pure white; palpi in front, branches of antennæ, fore coxæ, a streak on fore tibiæ, a spot at extremity of hind tibiæ, the spurs, and tarsi above fuscous; tegulæ tinged with yellow behind; abdomen orange above on segments 2 to 6, with a dorsal series of black points. Fore wing with black point at lower angle of cell. Hind wing with black point at angle of discocellulars.

Hab. NIGER R., Loko, type ♂ in Coll. Staudinger. *Exp.* 28 millim. This species is unknown to me.

1718. *Diacrisia urticæ*.

Bombyx urticæ, Esp. Schmett. iii. p. 20, pl. 83. f. 2 (1789); Hübn. Eur. Schmett. ii., Bomb. f. 154; Steph. Ill. Brit. Ent., Haust. ii. p. 76; Godt. Léop. Fr. iv. p. 365, pl. 37. f. 7; Staud. Cat. p. 60; Kirby, Cat. Het. p. 228.

Phalæna papyratia, Marsh. Trans. Linn. Soc. i. p. 72, pl. 1. f. 4 (1791).
Spilosoma urticæ, var. *quadripunctata*, Cosmovici, Le Nat. 1892, p. 280.
Spilosoma urticæ, var. *paucipunctata*, Fuchs, JB. Nass. Ver. xlv. p. 89 (1892).

Pure white; palpi with some black hair; antennæ blackish towards extremity; legs striped with black, the femora yellow above; abdomen orange-yellow above, except the basal and terminal segments, dorsal, lateral, and sublateral series of black spots. Fore wing wholly white or with black points at angles of cell, or with more or less of the points of the antemedial, postmedial, and subterminal series. Hind wing without markings.

Ab. 1. *paucipuncta*. Fore wing with very few spots.

Ab. 2. *quadripunctata*. Wings semihyaline; fore wing with black points at angles of cell and two on inner area.—Roumania.

Hab. EUROPE, Central, Zeller and Frey Colls., Greece (*Merlin*); AMUR. *Exp.* 40–44 millim.

Larva. Meyr. Brit. Lep. p. 40; Barrett, Lep. Brit. ii. p. 290, pl. 78. f. 1 b.

Dark brown; hairs dark grey; spiracles white; head blackish. Food-plants, *Rumex*, *Mentha*, etc. 7–9.

1719. *Diacrisia lubricipeda*.

Bombyx lubricipeda, Linn. Syst. Nat. i. p. 505 (1758); Kirby, Cat. Het p. 227.

Bombyx lubricipeda alba, Hüfn. Berl. Mag. ii. p. 412 (1766).

Phalæna lepus, Retz. Gen. Spec. Ins. p. 37 (1783).

Bombyx menthrastri, Esp. Schmett. iii. p. 334, pl. 66. ff. 6–10 (1786); Hübn. Eur. Schmett. ii. ff. 152, 153; Godt. Léop. Fr. iv. p. 362, pl. 37. ff. 5, 6; Steph. Ill. Brit. Ent., Haust. ii. p. 75, pl. 16. f. 3; Staud. Cat. p. 59.

Bombyx mendica, Rossi, Faun. Etrusc. ii. p. 174 (1790).

Phalæna erminea, Marsh. Trans. Linn. Soc. i. p. 70, pl. 1. f. 1 (1791).

Chelonia luxerii, Godt. Léop. Fr. iv. p. 360, pl. 37. f. 4 (1822).

Spilosoma sangaica, Wlk. xxxi. 294 (1864); Butl. Ill. Het. iii. p. 5, pl. 42. f. 5 (1879); Kirby, Cat. Het. p. 228.

Pure white; palpi, antennæ, and throat dark brown; legs streaked with black, the femora orange above; abdomen orange above except the basal and terminal segments, dorsal, lateral, and sublateral series of black spots. Fore wing with basal and subbasal black points below costa; antemedial and medial series of points angled on median nervure; a point in upper angle of cell, with another above it on costa; a postmedial series of points excurved beyond cell; an oblique series from apex to vein 5; short subterminal streaks on each side of veins 3–5; points on termen above vein 5 and below 2 sometimes present. Hind wing usually with discoidal spot and sometimes subterminal points above vein 5 and below 2.

Ab. 1. Fore wing with the number of black points more or less reduced, especially in the postmedial and subterminal series; this being most marked in the Japanese and Chinese form *sangaica*.

Ab. 2. Wings quite white, except the discal spot of hind wing.—Murree.

Ab. 3. Fore wing with the interspaces streaked with black, leaving the veins, streaks in the interspaces, and series of spots on terminal area white.

Ab. 4. *luxeri*. Fore wing tinged with flesh-pink and with fuscous suffusion on inner area; hind wing tinged with pale yellow.

Ab. 5. Head, thorax, and fore wing strongly tinged with ochreous.

Hab. C. & N. EUROPE, Zeller and Frey Colls.; SPAIN; ITALY; E. EUROPE; ARMENIA; ALTAI; AMUR; JAPAN, Nagasaki (*Leech*), 1 ♀, Tsu-Shima (*Seeböhm*), 1 ♂, (*Lewis, Fenton*) 4 ♂, 3 ♀, Nikko, 1 ♂, 1 ♀, Yokohama (*Manley*), 1 ♂; COREA, Gensan (*Leech*), 1 ♂; CHINA, Shanghai (*J. J. Walker*), 1 ♂, 3 ♀ type *sangaica*, Kweichow, 1 ♂, 1 ♀, Omei-shan, 1 ♂, Washan (*Pratt*), 1 ♂, 1 ♀, Chia-kou-ho (*Pratt*), 1 ♂, 1 ♀, Chang-yang (*Pratt*), 1 ♂, Moupin (*Kricheldorf*), 1 ♂, 1 ♀; N.W. HIMALAYAS, Murree (*Yerbury*), 1 ♀. *Exp.* 34-46 millim.

Larva. Meyr. Brit. Lep. p. 40; Barrett, Lep. Brit. ii. p. 28, pl. 77. f. 1 h.

Brown; hairs long, brown; dorsal line ochreous; spiracles white; head black. Food-plants: *Plantago*, *Mentha*, *Rumex*, etc. 7-9.

1720. *Diacrisia aspersa*.

Spilosoma aspersa, Mab. Bull. Soc. Zool. Fr. iii. p. 89 (1878); Saalm. Lép. Madag. i. p. 157, pl. 6. f. 89; Kirby, Cat. Het. p. 224.

Areas virginalis, Butl. A. M. N. H. (5) ii. p. 456 (1878).

White; head orange, the palpi, a patch on vertex, and antennæ except basal joint black; fore coxæ and femora orange, tibiæ and tarsi black; abdomen orange, some white hair at base, dorsal and lateral series of black spots, male with large patch on subterminal segment, the ventral surface white with sublateral series of black points. Fore wing sparsely irrorated with small brown spots; a discoidal lunule. Hind wing with discoidal lunule, the terminal half irrorated with small brown spots.

Hab. MADAGASCAR, Betsileo, 1 ♂, 1 ♀, type *virginalis*, Antananarivo, 3 ♀. *Exp.*, ♂ 52, ♀ 64 millim.

1721. *Diacrisia spectabilis*.

Noctua spectabilis, Tausch, Mém. Soc. Nat. Mosc. i. p. 179, pl. 13. f. 6 (1811); Herr.-Schäff. Schmett. Eur. ii. p. 145, ff. 9, 10; Staud. Cat. p. 58; Kirby, Cat. Het. p. 910.

Bombyx intercessa, Freyer, N. Beitr. Schmett. iv. p. 118 (1842); Dup. Lép. Fr. Suppl. iv. p. 81, pl. 57. ff. 4 a, b.

Arctia spectabilis, var. *annellata*, Christ, Rom. Mém. iii. p. 55, pl. 3. f. 2 (1887).

♂. White; head except vertex and thorax tinged with pale yellow-brown; antennæ with the branches brown; abdomen dorsally banded with dark brown and yellow. Fore wing with pale yellow-brown fascia on basal costal area, a short antemedial streak in cell

and triangular patch below the cell; a V-shaped mark from middle of costa to lower angle of cell with an oblique maculate band from it to inner margin; an oblique maculate band from apex to inner margin beyond middle, joined at vein 5 on its inner side by a short band from costa; a maculate band from below apex to tornus, conjoined to a terminal series of small spots. Hind wing with discoidal dull brown spot; a subterminal series of spots, the spot above vein 5 larger; a terminal series of small spots.

♀ with the markings dark brown; hind wing with the interspaces more or less filled with dark brown.

Hab. CENTR. & E. RUSSIA, Zeller & Frey Colls., 8 ♂, 2 ♀; SYRIA (Leech), 4 ♂, 1 ♀; ALTAI. *Exp.*, ♂ 36, ♀ 42 millim.

Larva. Purplish brown, with paler striae especially between the somites; the warts rufous on pale spots, with tufts of rather short white and a few black hairs; a lateral yellowish fascia; head blackish.

1722. *Diacrisia unifascia*. (Plate XLIV. fig. 7.)

Andala unifascia, Wlk. iii. 774 (1855); Hmps. Moths Ind. ii. p. 13; Kirby, Cat. Het. p. 240.

Alphæa varia, Wlk. xxxi. 297 (1864); Kirby, Cat. Het. p. 909.

White; palpi, frons at sides, and antennæ black-brown; black spots on patagia and usually on prothorax; legs banded black and white, the femora orange above; abdomen orange above, with dorsal, lateral, and sublateral series of black spots. Fore wing with oblique subbasal series of small black spots met on inner margin by the curved antemedial series which has a brownish triangular spot on costa; a curved brownish band with irregularly waved black edges just before middle, sometimes conjoined on costa to the triangular spot; three small spots in and beyond upper angle of cell, with larger spot on costa above them and five small spots in and beyond lower angle of cell; a postmedial series of small spots on each side of the veins bent inwards at vein 3 to below angle of cell, with larger spot on costa and paired points beyond it at veins 2 and 1; a subterminal series of short striae on each side of the veins; a series of spots on termen and cilia, the spots on each side of vein 5 angled inwards. Hind wing with discoidal spot; a more or less complete subterminal series and some small spots on apical half of termen.

Ab. 1. *varia*. Both wings, especially the hind wing, tinged with fuscous.

Hab. N.W. HIMALAYAS, Kulu (*G. Young*), 2 ♂, 1 ♀, Mussoorie (*Hearsey*), 1 ♀ type *varia*, Kasowli, 1 ♀, Kangra (*Hocking*), 7 ♂, 6 ♀. *Exp.*, ♂ 36, ♀ 40 millim.

Larva. Butl. Ill. Het. vii. p. 120, pl. 138. f. 11.

Dark-brown, with dorsal and paired subdorsal series of white spots; the warts black, with tufts of white and black hairs; head black.

1723. *Diacrisia lewisi*. (Plate XLIV. fig. 23.)

Seirarctia lewisii, Butl. Cist. Ent. iii. p. 115 (1885); Kirby, Cat. Het. p. 242.

White; palpi black, crimson at base; sides of frons and antennæ black; neck with crimson ring; tegulæ with black spots and slightly edged with crimson; thorax with black stripe on dorsum; shoulders black and crimson; femora crimson above, the tibiæ and tarsi black above; abdomen crimson above except at base, with dorsal, lateral, and sublateral series of black spots. Fore wing with the veins yellow; the costal edge black; the cell black except upper extremity in which there is a black point with two beyond it; a black fascia on costa towards apex; short streaks to termen above and below veins 6 and 7 diminishing towards apex; streaks above veins 3, 4, 5, the 1st reaching termen and with spots above and below its extremity; streaks above and below medial part of vein 2 and another below its extremity; fasciæ above and below vein 1 from before middle to termen. Hind wing with the discocellulars fuscous.

Hab. JAPAN (*Lewis*), 1 ♂ type, Oiwake (*Pryer, Manley*), 4 ♂, 2 ♀; W. CHINA, Ta-chien-lu (*Pratt*), 1 ♂. *Exp.* 52 millim.

1724. *Diacrisia chionea*. (Plate XLIV. fig. 11.)

Spilosoma chionea, Hmps. Ann. S. Afr. Museum, ii. p. 56 (1900).

Head pale yellow; palpi above and antennæ black; thorax white; sides of pectus, fore coxæ and femora above pale yellow, the fore coxæ with brown patches, the tibiæ and tarsi above black; abdomen orange, with dorsal series of black spots and lateral series of points, the ventral surface whitish. Fore wing pure white. Hind wing orange-yellow.

Hab. NATAL, Weenen, 1 ♂, 1 ♀ type. *Exp.* 44 millim.

1725. *Diacrisia scortilla*. (Plate XLIV. fig. 13.)

Spilosoma scortillum, Wllgrn. Öfv. Vet.-Akad. Förh. xxxii. (1) p. 101 (1876); Kirby, Cat. Het. p. 243.

Aloa nigricosta, Holl. Psyche, vi. p. 398 (1893).

♂. Yellowish white; head orange; palpi at sides and branches of antennæ black; tegulæ sometimes edged with orange; legs dark brown, the femora orange above; abdomen orange except at base, a dorsal series of brown bands conjoined on dorsum into a stripe, lateral and sublateral stripes. Fore wing with brown fascia on costa from before middle to apex and narrowing to points at extremities.

Hab. CAMEROONS, Ogové R., 1 ♂ cotype *nigricosta*; TRANSVAAL; NATAL, Mooi R., 1 ♂. *Exp.* 32-40 millim.

1726. *Diacrisia curvilinea*. (Plate XLIV. fig. 4.)

Spilosoma curvilinea, Wlk. iii. 671 (1855); Kirby, Cat. Het. p. 241.

Dull yellowish white; palpi, frons, and basal joint of antennæ orange, the palpi at sides and branches of antennæ black; pectus and legs orange, the tibiæ and tarsi striped with black; abdomen orange. Fore wing with black antemedial line slightly excurved below costa; a medial line with spot on it at upper angle of cell, oblique from costa to lower angle of cell, then inwardly oblique and sinuous; a sinuous postmedial line excurved between veins 5 and 3; cilia yellowish; the lines sometimes much reduced and partially obsolete. Hind wing yellowish white, with black discoidal spot.

Ab. 1. Fore wing with the ante- and postmedial lines obsolete.—Gambia, Coll. Druce.

Hab. LAGOS (*Strahan*), 1 ♀; GAMBIA (*Moloney*); CONGO (*Curror*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 32, ♀ 38 millim.

1727. *Diacrisia aurantiaca*. (Plate XLIV. fig. 19.)

Alpenus aurantiaca, Holl. Psyche, vi. p. 397 (1893), ♀.

Alpenus multiscripta, Holl. Psyche, vi. p. 398 (1893), ♂.

♂. Pale ochreous; palpi and frons dark brown. Fore legs and mid and hind tibiæ and tarsi brown; abdomen orange above, with dorsal and lateral series of black points. Fore wing irrorated with brown; a subbasal brown line oblique from costa to median nervure, then sinuous; a medial line oblique from costa to lower angle of cell, where it is joined by a discoidal lunule; the postmedial line bent outwards below costa, excurved from vein 5 to 3, then slightly incurved and with an oblique line beyond it from costa to vein 6; a terminal series of black points. Hind wing yellowish white, with slight discoidal black point.

♀. Fulvous orange; the 3rd joint of palpi, tibiæ and tarsi blackish; fore wing without the terminal series of points; hind wing orange or orange-yellow, without discoidal point.

Hab. SIERRA LEONE (*Austen*), 1 ♂; NIGER R., Akasa (*Lugard*), 1 ♀; CAMEROONS, Ogové R., 1 ♂, *multiscripta* cotype. *Exp.*, ♂ 32, ♀ 48 millim. Type † ♀ in Coll. Holland.

1728. *Diacrisia bifurca*. (Plate XLIV. fig. 20.)

Aloa bifurca, Wlk. iii. 700 (1855); Kirby, Cat. Het. p. 238.

Spilarectia radiosa, Druce, A. M. N. H. (7) i. p. 211 (1897).

♀. Head and thorax ochreous white; palpi and antennæ black; tegulæ edged with orange; tegulæ, shoulders, and patagia with black spots; legs ochreous and black; fore coxæ orange with black spots; abdomen ochreous, the dorsal surface orange, dorsal and lateral series and some sublateral black spots. Fore wing ochreous; a black point at base and spots on costa; an irregular oblique brown line from costa before middle to below cell not quite met by an erect

line from inner margin; two conjoined elongate obliquely-placed spots from middle of costa to lower angle of cell; a spot on costa above angle of cell and point at angle; two small spots beyond lower angle and three obliquely placed from lower angle towards an oblique line from inner margin; a streak from near termen below vein 5 to angle of cell; subterminal striæ on each side of veins 3, 4, 5, 6; a cluster of spots on costa before apex; two postmedial points on each side of vein 1; a terminal series of spots, the spot above vein 5 sending a streak inwards. Hind wing with discoidal spot; subterminal spots above and below vein 5; a spot below vein 2 and one near tornus; a terminal series of points on apical part of wing.

♂. Fore wing with the postmedial spots conjoined into a band met by the oblique mark from middle of costa; the subterminal markings reduced to some irregular spots below costa and at vein 5 and a small spot above vein 1. Hind wing with the spots smaller.

Hab. SIERRA LEONE, 1 ♂ type; CALABAR, type ♀ *radiosa* in Coll. Druce. *Exp.*, ♂ 42, ♀ 64 millim.

1729. *Diacrisia rava*. (Plate XLIV. fig. 5.)

Spilarctia rava, Druce, A. M. N. H. (7) i. p. 211 (1898).

♀. Ochreous white; lower part of frons blackish; antennæ black; tegulæ, patagia, and shoulders with black points, the tegulæ edged with yellow; fore coxæ tinged with yellow, the legs black above; abdomen orange above, with dorsal, lateral, and sublateral series of black spots. Fore wing with black point at base; the markings of underside showing slightly above and consisting of a medial fuscous band angled at lower angle of cell; a discoidal lunule; a postmedial line excurved between veins 5 and 3, interrupted at middle, met by an oblique series of irregular spots from costa and with spots beyond it towards inner margin; some points on termen towards apex. Hind wing with fuscous discoidal spot; two spots towards tornus; a subterminal point above vein 5, and some points on termen towards apex; some orange hair on inner area.

Hab. GOLD COAST, Aburi (*Sir G. Carter*), 1 ♀. *Exp.* 60 millim. Type † in Coll. Druce.

1730. *Diacrisia maculosa*.

Bombyx maculosa, Stoll, Pap. Exot. iv. pl. 370, B (1781); Kirby, Cat. Het. p. 238.

Epantheria assimilis, Hübn. Verz. p. 183 (1827).

Alpenus æqualis, Wlk. iii. 686 (1855); Kirby, Cat. Het. p. 238.

Epantheria indeterminata, Wlk. iii. 697 (1855).

Halesidota macularia, Wlk. xxxi. 314 (1864).

Spilosoma eyralpenus, Plotz, Stett. ent. Zeit. xli. p. 83 (1880); Kirby, Cat. Het. p. 238.

Spilosoma investigatorum, Karsch, Werther, Deutsch-O.-Africa, p. 313 (1898).

Yellowish white; palpi, lower part of frons, and antennæ black; vertex of head sometimes with black point; tegulæ with pair of black points, patagia with two pairs; thorax with dorsal black stripe; fore coxæ and femora above orange, tibiæ and tarsi banded with black; abdomen orange above except at base and extremity, a dorsal series of black bars and lateral and sublateral series of points. Fore wing with the retinaculum of male black; points at base; subbasal, antemedial, medial, postmedial, and subterminal irregular series of grey-centred black spots, the first two angled outwards below median nervure, the 3rd on median nervure, the 4th excurved from below costa to vein 3 round spots in angles of cell; some spots from costa to vein 4 before the subterminal series; a series of small black spots on termen and cilia. Hind wing usually with discoidal spot and sometimes two to four subterminal spots.

Ab. 1. *æqualis*. Fore wing with the spots larger and more conjoined; hind wing with the spots larger.

Ab. 2. *investigatorum*. Fore wing with the spots not centred with grey: (a) the spots larger, (b) the spots small.

Hab. SIERRA LEONE (*Foxcroft, Mitford*), 1 ♂, 6 ♀, types *æqualis*, *indeterminata*, and *macularia*; OLD CALABAR (*Cockburn*), 1 ♀; ASHANTI (*R. Brooking*), 1 ♀; NIGERIA, Onitsha; CAMEROONS, (*Rutherford*), 1 ♀; CONGO (*Curror*), 1 ♀; BR. E. AFRICA, Wadelai (*Emin Pasha*), 1 ♀, Victoria Nyanza (*Hannington*), 1 ♀, Takaungu, Machakos (*Crawshay*), 4 ♂; BR. C. AFRICA, Fwambo (*Carson*), 1 ♂; MASHONALAND, Salisbury (*Marshall*), 7 ♂, 3 ♀. *Exp.*, ♂ 42-48, ♀ 48-54 millim.

1731. *Diacrisia melanostigma*.

Spilosoma melanostigma, Ersch. Hor. Ent. Ross. viii. p. 316 (1872); id. Fedchenko's Reise, Lep. p. 33, pl. 2. f. 30; Kirby, Cat. Het. p. 239.

♂. Head and thorax ochreous white; palpi, sides of frons, and antennæ black; patagia and vertex of thorax striped with black; femora orange above, their extremities and stripes on fore tibiæ and tarsi and rings on mid and hind tarsi black; abdomen pale orange above, with dorsal, lateral, and sublateral series of black points, the ventral surface white. Fore wing ochreous white; a black streak on base of costa to near middle; a short antemedial streak below vein 1; a spot in middle of cell; a short streak above middle of vein 1 and a point below it; a point in upper angle of cell and two at lower angle; two obliquely placed points from costa just beyond the cell; five postmedial points below costa; an oblique series of eight points from apex; subterminal points on each side of veins 3 to 5, and a point on termen at vein 1. Hind wing yellowish white with a discoidal point, and subterminal points on each side of vein 1.

Hab. C. ASIA, Turan, Samarkand, 7000 ft. (*Haberhauer*), 1 ♂. *Exp.* 46 millim.

1732. *Diacrisia subfascia*.

Spilosoma subfascia, Wlk. iii. 678 (1855); Moore, Lep. Ceyl. ii. p. 71, pl. 107. ff. 3, 3a; Hmps. Moths Ind. ii. p. 4; Kirby, Cat. Het. p. 230.

♂. Whitish buff; palpi, sides of frons, and antennæ black; some orange on shoulders; patagia with black spots; fore legs, the extremities of mid and hind femora, and stripes on the tibiæ and tarsi above black; abdomen orange above with some pale hair at base, dorsal, lateral, and sublateral series of black spots. Fore wing with black point at base; antemedial, medial, and postmedial black spots on costa, the two latter with points below them in cell; an oblique series of spots from apex to inner margin just beyond middle with a black point beyond it above vein 5, and sometimes one before it and black points before and usually beyond it on each side of vein 1; cilia sometimes with two points above middle. Hind wing with the inner area tinged with orange; a black discoidal spot; some subterminal spots towards apex and points on cilia, and three or four subterminal spots towards tornus.

♀. Rather pale, especially the hind wing; fore wing with the spots of the oblique series reduced to those nearest apex and inner margin; hind wing with the spots towards apex absent.

Hab. CEYLON (*Templeton*), 1 ♂, 1 ♀ type, Pundaloya (*Green*), 2 ♂, 1 ♀. *Exp.*, ♂ 42, ♀ 52–60 millim.

Larva. Hmps. Ill. Het. B. M. ix. p. 78, pl. 175. f. 5.

Whitish, streaked with olive fuscous and ochreous especially on dorsal area; warts blue-black, with rather sparse tufts of long black and white hair; head black.

*1733 *Diacrisia guttata*.

Arctia guttata, Ersch. Fedchenko's Reise, Lep. p. 32, pl. 2. f. 28 (1874); Kirby, Cat. Het. p. 234.

♂. Yellowish white; patagia and middle of thorax with black points; abdomen dorsally orange, with series of black points. Fore wing with greyish-fuscous mark at base of inner margin; subbasal and antemedial bands from costa to just below cell and spots on inner margin; a somewhat V-shaped spot at lower angle of cell and spot above it on costa, and striga on inner area; postmedial spot on costa, a point on vein 5, and two small spots near tornus; cilia chequered yellowish and grey. Hind wing with dark discoidal point and two small spots on termen towards tornus.

Hab. C. ASIA, Sarafshan. *Exp.* 30 millim. This species is unknown to me.

1734. *Diacrisia lutea*.

Bombyx lubricipeda ♂, Linn. Syst. Nat. i. p. 505 (1758); Esp. Schmett. iii. p. 330, pl. 66. ff. 1–5; Marsh. Trans. Linn. Soc. i. p. 71, pl. 1 f. 2; Hübn. Eur. Schmett. ii. ff. 155, 156; Godt. Léop. Fr. iv. p. 358, pl. 37. f. 3; Steph. Ill. Brit. Ent., Haust. ii. p. 77; Oberth. Ét. Ent. xx. pls. xi.–xii.; Staud. Cat. p. 59.

Bombyx lubricipeda lutea, Hüfn. Berl. Mag. ii. p. 412 (1766); Kirby, Cat. Het. p. 229.

Noctua zatima, Stoll, Pap. Exot. iv. pl. 381, F (1781); Mill. Ann. Soc. L. Lyon (2) xi. p. 26, pl. 49. ff. 5-7.

Bombyx radiatus, Haw. Ent. Trans. i. p. 336 (1812); Steph. Ill. Brit. Ent., Haust. ii. p. 77; Westw. & Humphr. Brit. Moths, i. pp. 88, 92, pl. 18. f. 19.

Spilosoma walkeri, Curt. Brit. Ent. ii. p. 92 (1825).

Spilosoma deschangei, Dep. Ann. Soc. Ent. Fr. (6) vi. p. 283, pl. 4. f. 4 (1886).

♂. Whitish buff to yellow buff; palpi except at base, sides of frons, antennæ, and streaks on legs black; femora orange-yellow above; abdomen orange, the base, extremity, and ventral surface buff, dorsal, lateral, and sublateral series of black spots. Fore wing with black antemedial spot on costa and usually a point above vein 1; a point in upper angle of cell, with another or short streak above it on costa; black striæ or points on each side of the veins from apex to vein 6 and from 2 to inner margin, rarely a nearly complete series curved round to costa at the postmedial point on the interrupted band of underside; sometimes an oblique series of subterminal points on each side of veins 5, 3. Hind wing whitish or orange-yellow, with discoidal spot, and sometimes a subterminal spot above vein 5 and others between vein 3 and tornus.

♀ whiter buff.

Ab. 1. *walkeri*. Fore wing with the interspaces filled with black, leaving streaks of buff below costa and in and below cell and some spots beyond the cell.

Ab. 2. *zatima*. Fore wing without the buff spots beyond the cell on the black interspaces; hind wing with the interspaces black.

Ab. 3. *deschangei*. Abdomen and wings dark brown, the base of abdomen buff, the base of hind wing rather paler.

Hab. CENTR. and S. EUROPE, Zeller & Frey Colls.; E. EUROPE; ALTAI; AMUR. *Exp.*, ♂ 42, ♀ 42-50 millim.

Larva. Meyr. Brit. Lep. p. 41; Barrett, Lep. Brit. ii. p. 284, pl. 76. f. 1 k.

Grey or brown; hairs brown; dorsal line sometimes pale or whitish; spiracular line whitish, spiracles white; head greyish yellow. Food-plants: *Rumex*, *Plantago*, *Mentha*, etc. 7-9.

1735. *Diacrisia punctata*.

Spilosoma punctata, Moore, Lep. E. I. C. p. 355 (1859); Kirby, Cat. Het. p. 230.

Spilarectia uniformis, Moore, Lep. Atk. p. 39 (1879); Kirby, Cat. Het. p. 230.

Spilarectia ummera, Swinh. P.Z.S. 1889, p. 405, pl. 43. f. 1; Hmps. Moths Ind. ii. p. 6; Kirby, Cat. Het. p. 230.

♂. Whitish buff; palpi and frons at sides, antennæ, and streaks on legs blackish; fore coxæ and femora above orange; abdomen orange above, the base and extremity buff, dorsal, lateral, and sublateral series of black spots. Fore wing with black point at base; an antemedial spot on costa and points on each side of vein 1; a point at upper angle of cell and one above it on costa; a postmedial oblique series of points on each side of veins 3 to 1, on

underside continued as a curved series to costa; an oblique series of points on each side of veins from apex to vein 6, and another subterminal series on each side of veins 5 to 3. Hind wing with the inner area yellow; a black discoidal spot and a subterminal spot below vein 2.

♀. Fore wing with the antemedial points, the point on costa above end of cell, and often the postmedial, subterminal, and apical series of points absent; hind wing often with subterminal spot above vein 5 and four towards tornus.

Ab. 1. *ummera*. Hind wing orange-yellow.

Hab. SIKHIM; ASSAM, Nágas; BURMA, Bassein (*Noble*), 1 ♀ type *ummera*, Thyetmyo (*Watson*), 1 ♀; JAVA (*Horsfield*), 1 ♂, 3 ♀, type. *Exp.*, ♂ 34, ♀ 40-44 millim.

1736. *Diacrisia fuscitincta*, n. sp. (Plate XLV. fig. 1.)

♂. Head and thorax whitish buff; palpi black-brown above, orange below; frons blackish at sides; antennæ black; fore coxæ orange with black spot, femora orange above, the tibiæ and tarsi black above; abdomen orange above, with dorsal, lateral, and sublateral series of black points, the ventral surface pale buff. Fore wing buff, the interspaces suffused with fuscous except on basal, costal, and apical half of terminal area; antemedial black spots on costa and each side of vein 1; a spot in upper angle of cell; a postmedial series of spots excurved from costa to vein 3, then oblique, the spots from below costa to vein 3 obsolete; a subterminal series of slight streaks, often obsolete, on each side of the veins, bent outwards at vein 5, where it is connected with the apex by two points. Hind wing buff, slightly tinged with brown; the inner area suffused with orange; a discoidal black spot; a subterminal series of spots on each side of veins 5, 2, and 1.

♀. Fore wing wholly suffused with brown except the veins; the ante- and postmedial series of spots more complete, the subterminal series obsolete; hind wing orange; abdomen orange below.

Hab. JAVA (*Kirkpatrick*), 1 ♂, 1 ♀, Arjuno, 3000 feet (*Doherty*), 1 ♂ type. *Exp.*, ♂ 34, ♀ 38 millim.

1737. *Diacrisia mona*.

Spilosoma mona, Swinh. P. Z. S. 1885, p. 295, pl. 20. ff. 3, 4; Hmps. Moths Ind. ii. p. 5; Kirby, Cat. Het. p. 232.

Whitish buff; palpi black at tips, orange at base; frons black at sides; antennæ black, white at tips; tibiæ and tarsi fuscous above, fore coxæ and femora above orange; abdomen orange above, with dorsal, lateral, and sublateral series of black spots. Fore wing with black point at base; a curved antemedial series of black points; a point in upper angle of cell; a postmedial series of points on each side of the veins strongly excurved from below costa to vein 3, then oblique; a subterminal series of short streaks on each side of veins

7 to 3. Hind wing with black discoidal spot, or the whole cell black; a more or less developed postmedial series of spots excurved beyond cell, then incurved; a subterminal series of large spots, those at costa and middle smaller. Underside of fore wing with diffused black in cell.

Hab. BOMBAY, 1 ♀, Mahableshwar (*Swinhoe*), 2 ♀ type. *Exp.* 52 millim.

1738. *Diacrisia testacea*. (Plate XLV. fig. 2.)

Spilosoma testacea, Wlk. iii. 670 (1855); Kirby, Cat. Het. p. 241.

Spilosoma subflavescens, Wlk. xxxi. 293 (1864).

♂. Ochreous; palpi and antennæ black; patagia with black points; fore coxæ with black patches, fore femora black above, fore and mid tibiæ and tarsi black, the hind femora at extremity and tarsi black; abdomen orange above, with dorsal series of black bands and lateral series of spots. Fore wing with black point at base; a subbasal point in cell; an oblique antemedial series of three points below subcostal and median nervures and above vein 1; an oblique medial series of points at upper angle of cell, near origin of vein 2 and above vein 1; a group of points at lower angle of cell; a postmedial series of points on each side of the veins strongly excurved from costa to vein 4, then incurved, and with three usually larger points from costa beyond them; a sinuous subterminal series of points on each side of the veins. Hind wing paler, with more or less prominent discoidal spot, usually a subterminal point above vein 5, and sometimes some points on middle of termen.

Hab. ZULULAND, 1 ♂; NATAL (*Gueinzins*, *Gooch*), 5 ♂, type and type *subflavescens*, Karkloof (*Marshall*), 4 ♂. *Exp.* 38 millim.

1739. *Diacrisia scioana*.

Cyenia scioana, Oberth. Ann. Mus. Genov. xv. p. 176, pl. 1. f. 8 (1880); Kirby, Cat. Het. p. 908.

Spilarcia abbottii, Holl. Entom. xxv. Suppl. p. 92 (1892); id. Pr. U.S. Mus. xviii. p. 248.

♂. Brownish ochreous; palpi black; antennæ with the shaft blackish above, the branches long and black; patagia with black points; fore coxæ, tibiæ, and tarsi black; abdomen dorsally orange, with dorsal bands and lateral and sublateral series of points. Fore wing with subbasal black point below the costa; an oblique antemedial series of three points in and below cell and above vein 1; a medial point or short streak above median nervure, points above and below origin of vein 2 and a point above vein 1; three points each at upper and lower angles of cell; two postmedial series of points on each side of the veins excurved from costa to vein 3, then incurved, and the latter met by an oblique series of points on each side of the veins from apex; a prominent terminal series of points. Hind wing paler, with black point at upper angle of cell, and sometimes a slight mark on termen below apex.

♀. Deeper ochreous throughout.

Hab. ABYSSINIA, Shoa; BR. E. AFRICA, Kikuyu, Fort Smith (Crawshay), 1 ♂, Kilimanjaro (Abbott), type † in U.S. Nat. Mus.; DELAGOA BAY, 1 ♀ in Mus. Oxon. *Exp.* 36 millim.

1740. *Diacrisia obliquivitta*.

Spilarctia obliquivitta, Moore, Lep. Atk. p. 40, pl. 2. f. 26 (1879); Hmps. n.

Moths Ind. ii. p. 13; Kirby, Cat. Het. p. 230.

Spilarctia jucunda, Butl. Ill. Het. B. M. v. p. 32, pl. 85. f. 11 (1881);

Hmps. Moths Ind. ii. p. 6; Kirby, Cat. Het. p. 232.

♂. Head and thorax whitish buff; palpi, sides of frons, and antennæ black, the last with some white on shaft above; legs striped with black; abdomen orange above except at base and extremity, clothed with long hair, and with dorsal and lateral series of black points, the ventral surface white. Fore wing buff, thinly scaled; an oblique slightly curved postmedial black line from vein 5 to inner margin, sometimes connected with the costa by a curved series of points, and with an oblique series of short black streaks on each side of the veins between it and apex. Hind wing pure white.

Hab. SIKHIM (*Lidderdale*), type ♂ *jucunda*, (*Dudgeon*) 4 ♂. *Exp.* 36-42 millim.

1741. *Diacrisia sparsipuncta*, n. sp. (Plate XLV. fig. 19.)

♂. Pale yellow; head and tegulæ orange-yellow; palpi black, fringed with yellow below; antennæ black; tibiæ and tarsi black above, the femora orange above; abdomen orange above, with dorsal, lateral, and sublateral series of black spots. Fore wing with small pale brown antemedial spot below cell; some spots in and below end of cell; a curved subterminal series with some spots beyond it at middle and before it towards inner margin. Hind wing with the inner area clothed with orange hair.

♀. Deeper ochreous throughout.

Hab. MADAGASCAR, Betsileo (*Cowan*), 1 ♂, 1 ♀ type. *Exp.* 42 millim.

1742. *Diacrisia flavens*. (Plate XLV. fig. 25.)

Alpenus flavens, Moore, Lep. Atk. p. 39 (1879); Hmps. Moths Ind. ii. p. 13; Kirby, Cat. Het. p. 239.

♀. Ochreous; palpi at sides and antennæ blackish; legs streaked with black; abdomen orange, with dorsal, lateral, and sublateral series of black spots. Fore wing with basal fuscous spot and curved subbasal series, sometimes obsolete; a curved medial series; two discoidal spots, and sometimes black suffusion in end of cell excurved from costa to vein 3, then incurved with one or two spots beyond it at middle, or complete subterminal series. Hind wing with discoidal point or spot; a postmedial maculate band sometimes

present from costa to vein 2, angled at middle; some subterminal spots towards tornus and sometimes towards apex, sometimes developed into large conjoined spots.

Hab. SIKHIM (*Lidderdale*), 1 ♀; ASSAM, Khásis, 1 ♀ type; CANARA, 1 ♀. *Exp.* 40 millim.

1743. *Diacrisia flavalis*. (Plate XLV. fig. 3.)

Spilosoma flavalis, Moore, P. Z. S. 1865, p. 809; Hmps. Moths Ind. ii. p. 6; Kirby, Cat. Het. p. 232.

Spilosoma lativitta, Moore, P. Z. S. 1865, p. 809; Kirby, Cat. Het. p. 232.

♂. Orange-yellow; palpi above, sides of frons, and antennæ blackish; vertex of head often whitish; legs striped with black; abdomen at base, extremity, and on ventral surface whitish, with dorsal, lateral, and some sublateral series of black points. Fore wing uniform, or in the form *lativitta* with three antemedial fuscous points, a point in upper angle of cell, and more or less complete greyish maculate band from apex to middle of inner margin, and some subterminal points between veins 3 and 5. Hind wing white, the area towards tornus often tinged with yellow; a fuscous discoidal spot, and often a subterminal spot above vein 5, and one to four towards tornus.

Hab. SIKHIM (*Russell*, *Lidderdale*, *Pilcher*), 9 ♂, type and type *lativitta*. *Exp.* 42 millim.

1744. *Diacrisia jankowski*.

Spilosoma jankowskii, Oberth. Ét. Ent. v. p. 31, pl. 8. f. 3 (1881); Kirby, Cat. Het. p. 231.

♂. Pale orange-yellow; palpi above, sides of frons, and antennæ black; fore coxæ and femora above crimson; abdomen crimson above, whitish at base, extremity, and on ventral surface, with dorsal, lateral, and sublateral series of small black spots. Fore wing pale orange-yellow, with fuscous spot in upper angle of cell and oblique postmedial fuscous maculate band from vein 5 to 1. Hind wing white, slightly tinged with yellow; a slight fuscous discoidal spot.

♀. Fore wing with three obliquely placed short fuscous sub-apical striæ.

Hab. AMURLAND, 1 ♂, 1 ♀. *Exp.*, ♂ 40, ♀ 48 millim.

Subsp. 1. *soror*, Leech, Trans. Ent. Soc. 1899, p. 152.

♂. Fore wing without the fuscous spot in upper angle of cell. Hind wing sometimes with two subterminal spots towards tornus; no discoidal spot.

♀. Fore wing with the postmedial band curved round to costa and with an additional spot on inner margin.

Hab. W. CHINA, Chia-kou-ho, 2 ♂, Chia-ting-fu, Ta-chien-lu, 1 ♂ type, Che-tou, 1 ♀ Washan, 1 ♂, Pu-tsu-fong, 3 ♂.

1745. *Diacrisia rubitincta*. (Plate XLV. fig. 20.)

Spilosoma rubitincta, Moore, P. Z. S. 1865, p. 809; Hmps. Moths Ind. ii. p. 11; Kirby, Cat. Het. p. 232.

Icambosida punctilinea, Moore, Lep. Atk. p. 40 (1879); Kirby, Cat. Het. p. 232.

♂. Head yellow, whitish on vertex; palpi black at sides, crimson below; antennæ black; throat and fore coxæ crimson, legs streaked with black; abdomen crimson above, clothed with long hair, yellow and white at base and extremity, white below, and with dorsal, lateral, and sublateral series of black points. Fore wing orange tinged with crimson; an oblique yellowish postmedial line from vein 5 to inner margin, and with more or less complete series of fuscous spots on it. Hind wing white, with discoidal fuscous spot; subterminal spots on each side of vein 5, and three towards tornus sometimes present.

Ab. 1. *punctilinea*. Much paler.

Hab. SIKHIM (Russell, Lidderdale, Dudgeon), 5 ♂ type. Exp. 46 millim.

*1746. *Diacrisia erythrophleps*. (Plate XLV. fig. 13.)

Spilosoma erythrophleps, Hmps. Moths Ind. ii. p. 8 (1894).

♂. Head and thorax orange-red; palpi, frons, and antennæ dark brown; tegulæ and patagia with black points; sides of pectus, tibiæ, and tarsi fuscous; abdomen orange-red, with dorsal black bands and patch on terminal segment; the ventral surface yellowish white, with lateral, sublateral, and ventral series of black spots and streak on terminal segment. Fore wing orange-red, with the veins scarlet; a fuscous fascia from base through the cell to termen; curved antemedial and medial series of spots, and three spots between them from costa to middle of cell; a postmedial series of which the spots at upper angle and below lower end are large; a subterminal series of elongate spots; a terminal series of which the spots above veins 2 and 5 are very long and those above 4 and 6 rather long. Hind wing yellowish white; medial and postmedial series of fuscous spots, those in and beyond cell conjoined into an irregular patch; a subterminal series of spots above and below vein 5 and four between vein 3 and tornus; some spots on termen between vein 3 and apex, some of which are lunulate.

Hab. ASSAM, Naga Hills, 6000 feet (*Doherty*), type ♂ in Coll. Elwes. Exp. 32 millim.

1747. *Diacrisia bifasciata*. (Plate XLV. fig. 12.)

Spilarectia bifasciata, Butl. Trans. Ent. Soc. 1881, p. 7; Kirby, Cat. Het. p. 231.

♂. Buff; palpi crimson at base, black at tips; lower part of frons and antennæ black; fore coxæ and femora above crimson, the former with black spot; extremity of femora, tibiæ, and tarsi black; abdomen crimson above except at base and extremity, with dorsal,

lateral, and sublateral series of black spots. Fore wing with antemedial maculate black band, the spot on costa produced as a streak towards base; a postmedial maculate band oblique from costa to just beyond lower angle of cell, where it is strongly angled, then inwardly oblique, the two bands connected by a fascia on inner margin.

♀. Fore wing with the black bands more developed; hind wing with slight discoidal spot.

Hab. JAPAN, Tokio (*Fenton*), 1 ♂ type, Yokohama (*Manley*, *Pryer*), 1 ♂, 4 ♀. *Exp.*, ♂ 54, ♀ 68 millim.

1748. *Diacrisia comma*.

Aloa comma, Wlk. vii. 1703 (1856); Hmps. Moths Ind. ii. p. 10; Kirby, Cat. Het. p. 242.

Spilosoma abdominalis, Moore, Lep. E. I. C. p. 356 (1859); Butl. Ill. Het. B. M. v. p. 31, pl. 85. f. 9; Kirby, Cat. Het. p. 231.

Head and thorax whitish to ochreous flesh-colour; palpi with the basal joint crimson, the last two joints black; frons at sides and antennæ black; legs striped with black, the fore coxæ and femora above crimson; abdomen crimson above, with dorsal, lateral, and sublateral series of black points. Fore wing with small antemedial triangular black spot on costa, sometimes connected with base by a costal fascia; a postmedial spot on costa usually present; a black fascia on medial part of inner margin, with a spot above its basal extremity representing part of the antemedial line, and from its outer extremity part of the postmedial line sometimes developed as a series of spots bent outwards to vein 3. Hind wing ochreous whitish, with more or less developed discoidal spot, the inner area sometimes tinged with crimson.

Hab. N.W. HIMALAYAS, Simla (*Harford*), 1 ♂, 1 ♀, Kulu (*Hocking*), 1 ♂, (*Buckley*) 2 ♀ type *abdominalis*. *Exp.*, ♂ 50, ♀ 60 millim. Type in Mus. Oxon.

1749. *Diacrisia seriatopunctata*.

Spilosoma seriatopunctata, Motsch. Ét. Ent. ix. p. 31 (1860); Kirby, Cat. Het. p. 230.

Spilosoma striatopunctata, Oberth. Diagn. Lep. Askold, p. 6 (1879); id. Ét. Ent. v. p. 32, pl. 1. f. 8.

Spilarectia rosacea, Butl. A. M. N. H. (5) iv. p. 352 (1879); Kirby, Cat. Het. p. 231.

Spilarectia basilimbata, Butl. Trans. Ent. Soc. 1881, p. 6; Kirby, Cat. Het. p. 230.

♂. Buff; palpi crimson, black at tips; frons and antennæ black; fore coxæ crimson with black patch; femora crimson above, tibiæ and tarsi striped with black; abdomen crimson above except at base and extremity, dorsal, lateral, and sublateral series of black spots. Fore wing with the interspaces tinged with brown; a black fascia on base of costa expanding into an antemedial spot; antemedial black points above and below vein 1, sometimes absent; a

black point in upper angle of cell and sometimes another beyond it below costa; an oblique series of spots or short streaks on each side of the veins from apex to inner margin beyond middle, some of the spots at middle often absent; subterminal black points on each side of veins 3-5, sometimes absent, and sometimes two spots towards tornus. Hind wing with the inner area slightly tinged with crimson; a discoidal black spot, one to three subterminal spots towards tornus and often one above vein 5. Underside of fore wing with the disk suffused with crimson; black suffusion in submedian interspace; a black discoidal lunule, and postmedial spot below costa.

♀. Fore wing with the black streak on costa sometimes reduced to the antemedial spot; the oblique series of spots reduced to those towards apex and inner margin; underside without crimson and often without black suffusion.

Ab. 1. *basilimbata*. Fore wing with the interspaces more strongly tinged with brown; black spots before the oblique series on each side of veins 1 and 2.

Ab. 2. *rosacea*. Fore wing slightly tinged with crimson; hind wing strongly tinged with crimson, leaving the margins only ochreous; underside of fore wing crimson to near termen.

Hab. SIBERIA, Askold; JAPAN, Yezo (*Andrews*), 1 ♂, Hakodate (*Lewis*), 4 ♂, 2 ♀, Oiwake (*Pryer*), 2 ♂, 1 ♀, Miyanoshita, 1 ♂, Tokio (*Jonas*, *Fenton*, *Pryer*), 6 ♂, 2 ♀, types *rosacea* and *basilimbata*, Yokohama (*Manley*), 2 ♂; COREA, Gensan (*Leech*), 1 ♂, 1 ♀. *Exp.* 42-54 millim.

*1750. *Diacrisia sparsalis*.

Areas sparsalis, Wlk. xxxi. 287 (1864); Swinh. Cat. Het. Mus. Oxon. p. 176, pl. iv. f. 4; Kirby, Cat. Het. p. 253.

♀. Head and thorax yellowish white; sides of frons, and antennæ blackish; lower part of frons and edges of tegulæ tinged with scarlet; black spots on tegulæ and patagia and a brown streak on thorax; pectus and legs scarlet, the latter banded with black; abdomen scarlet, with dorsal, lateral, and sublateral series of black spots. Fore wing ochreous white; four somewhat triangular black patches on costa; two obliquely placed brown antemedial spots below the cell; a spot on upper discocellular and a point above vein 6; a postmedial series of brown spots in the interspaces, somewhat angled at vein 4, then very oblique, expanding into a large patch on middle of inner margin with a spot above it on inner side of the series; a series of obscure irregular spots beyond the postmedial series, bent outwards to apex, with blackish spots above veins 4 and 5 and an irregular patch on inner margin, and joined at vein 3 by an obscure oblique series of marks from termen at vein 6; a series of brown spots on cilia. Hind wing scarlet; a discoidal black spot; four small subterminal spots towards apex and three towards tornus. Underside of fore wing scarlet.

Hab. CELEBES, Tondano (*Wallace*), 1 ♀ type † in Mus. Oxon. *Exp.* 70 millim.

1751. *Diacrisia canescens*. (Plate XLV. fig. 4.)*Spilosoma obliqua*, Wlk. iii. 679 (1855), ♀ (nec ♂).*Ardices canescens*, Butl. Cist. Ent. ii. p. 29 (1875); Kirby, Cat. Het. p. 239.

Yellowish white; palpi scarlet, the 3rd joint black; sides of frons and antennæ black; neck scarlet at sides; shoulders with black-brown stripe with scarlet upper edge; legs striped with blackish, fore coxæ blackish edged with scarlet, the femora scarlet above; abdomen scarlet above, with dorsal, lateral, and sublateral series of black spots. Fore wing with black-brown spot on base of costa; an antemedial maculate line very oblique from costa to median nervure, where it is acutely angled, then represented by spots on each side of vein 2 and above vein 1; a point in upper angle of cell; a maculate postmedial line, excurved from below costa to vein 3, where it is joined by an oblique series of irregular spots from apex, then oblique; a subterminal series of points on each side of veins 5 to 3; some points on medial part of termen and at tornus; some points sometimes present on inner area beyond the postmedial line. Hind wing white; a discoidal spot; subterminal spots on each side of veins 5, 2, and 1, sometimes much reduced.

Hab. N. S. WALES, Sydney (*Brenchley, Mathew*), 6 ♂, 4 ♀, type and type *obliqua* ♀. *Exp.*, ♂ 44, ♀ 54 millim.

1752. *Diacrisia stigmata*.*Spilosoma stigmata*, Moore, P. Z. S. 1865, p. 809; Hmps. Moths Ind. ii. p. 5; Kirby, Cat. Het. p. 230.*Spilarctia lacteata*, Butl. Ill. Het. B. M. v. p. 31, pl. 85. f. 10 (1881); Hmps. Moths Ind. ii. p. 10; Kirby, Cat. Het. p. 232.Fig. 141.—*Diacrisia stigmata*, ♂. $\frac{1}{2}$. (From Moths Ind. vol ii.)

♂. Pale buff; palpi, lower part of frons, antennæ, a streak on vertex of thorax, pectus in front, patches on fore coxæ, and stripes on legs black; fore coxæ at sides and femora above crimson; abdomen crimson above, clothed with long whitish hair, dorsal, lateral, and sublateral series of black points. Fore wing with short subbasal black streak in cell and points below costa and cell and above vein 1, often almost aborted; a medial series of spots angled on median nervure, then strongly incurved and with short streak above inner margin; an oblique series of short streaks on each side of the veins from apex to vein 5 and usually others on each side of vein 1; a subterminal series of short streaks on each side of veins 3,

4, 5. Hind wing white, with subterminal black spots above vein 5 and three towards tornus. Underside of fore wing with more or less complete postmedial series of spots.

♀. Fore wing with the black markings more or less reduced.

Ab. 1. Femora and abdomen above orange.

Hab. W. CHINA, Omei-shan, 1 ♂, Nitou, 1 ♀; N.W. HIMALAYAS, Murree (*Harford*), 1 ♂, Dharmasala (*Hocking*); TIBET, Yatung (*Hobson*), 3 ♂; SIKHIM (*Lidderdale, Elwes, Bingham*), 4 ♂, 2 ♀, type and type *lacteata*. *Exp.*, ♂ 46, ♀ 58 millim.

Larva. Butl. Ill. Het. B. M. vii. pl. 138. f. 2.

Black; head and dorsal tufts of hair on terminal somite fulvous; warts with tufts of dirty white and black hair.

1753. *Diacrisia leopardina*.

Euprepia leopardina, Koll. Hügel's Kaschmir, iv. (2) p. 467, pl. 21. f. 2 (1844); Hmps. Moths Ind. ii. p. 22; Kirby, Cat. Het. p. 240.

Arctia divisa, Wlk. iii. 614 (1855); Butl. Ill. Het. B. M. v. p. 33, pl. 86. f. 2.

Ardices liturata, Wlk. Char. Lep. Het. p. 12 (1869); Kirby, Cat. Het. p. 239.

Yellowish white; palpi, sides of frons, and antennæ black; tegulæ usually with black spots; patagia and vertex of thorax striped with black; legs striped with black, fore coxæ on outer side and femora above crimson; abdomen orange above, more or less strongly tinged with crimson, dorsal, lateral, and sublateral series of black spots. Fore wing with black streaks at base on costa, in cell, and on vein 1; an antemedial fascia on inner margin with elongate spot above its extremity above vein 1; a gradually dilated fascia on each side of median nervure conjoined to spots from costa before middle and at end of cell; a postmedial maculate band curved from costa to vein 3, where it is joined by an oblique series of short streaks from apex; a subterminal series of spots on each side of veins 5 to 1; a terminal series of short striæ. Hind wing with the interspaces more or less completely filled by black, sometimes reduced to a streak on inner area, a discoidal spot, a subterminal maculate band, and some points near termen.

Ab. 1. Underside of fore wing to postmedial band and inner area of hind wing suffused with scarlet showing through to upperside.

Hab. N.W. HIMALAYAS, type ♀ *liturata*, Kashmir (*Leech*), 1 ♂, 4 ♀, Simla (*Pilcher*), 2 ♀, Almorah (*Boys*), 2 ♂, 4 ♀ type *divisa*, Manpuri, 1 ♂. *Exp.*, ♂ 44, ♀ 56 millim.

1754. *Diacrisia inæqualis*. (Plate XLV. fig. 9.)

Spilarcia inæqualis, Butl. A. M. N. H. (5) iv. p. 351 (1879); Kirby, Cat. Het. p. 232.

♂. Head and thorax ochreous white; palpi black, fringed with crimson below; sides of frons and antennæ black; sides of neck with crimson patches; legs black above; abdomen crimson above, the hair at base and extremity and on ventral surface yellowish

white, dorsal, lateral, and sublateral series of black spots; wings ochreous with a pinkish tinge. Fore wing with fuscous spots in middle and upper angle of cell; an oblique series of spots from apex to middle of inner margin, becoming short striæ on each side of the veins towards apex and with spots before it on each side of vein 1; some subterminal striæ between veins 3 and 5 and a point further from termen below vein 2. Hind wing with black discoidal spot; a subterminal spot above vein 5 and three towards tornus.

♀. White; palpi fringed with white below; abdomen with the medial segments slightly tinged with crimson on dorsum; fore wing with the oblique series of spots reduced to the short streaks towards apex.

Hab. JAPAN, Yokohama (*Jonas, Manley, Pryer*), 6 ♂, 6 ♀, type. *Exp.*, ♂ 36, ♀ 48 millim.

1755. *Diacrisia dentilinea*. (Plate XLV. fig. 21.)

Spilosoma dentilinea, Moore, P. Z. S. 1872, p. 573; Hmps. Moths Ind. ii. p. 4; Kirby, Cat. Het. p. 232.

♂. Whitish buff; palpi crimson at base, black at tips; lower part of frons black; antennæ whitish; thorax with black streak on vertex; legs striped with black, the fore coxæ and femora above crimson; abdomen orange above, with dorsal, lateral, and sublateral series of small black spots. Fore wing with basal black point; an antemedial series of three black points towards costa, one below median nervure where the series is strongly angled and two towards inner margin; a point in upper angle of cell with one beyond it below costa and one or two just beyond lower angle; an oblique postmedial series of points on each side of veins 4 to 1, larger towards inner margin; a subterminal line from costa to vein 2 dentate to termen between veins 4 and 7. Hind wing tinged with pink; a discoidal and a subterminal series of black points between veins 2 and 6. Underside of fore wing suffused with crimson to end of cell and near tornus.

Hab. SIKHIM, Moore Coll., 1 ♂ type. *Exp.* 42 millim.

1756. *Diacrisia obliqua*.

Spilosoma obliqua, Wlk. iii. 679 (1855) ♂, nec ♀; Kirby, Cat. Het. p. 230.

Spilosoma todara, Moore, P. Z. S. 1872, p. 574; Hmps. Moths Ind. ii. p. 7; Kirby, Cat. Het. p. 231.

Spilarctia nydia, Butl. Cist. Ent. ii. p. 41 (1875); id. Ill. Het. B. M. v. p. 32, pl. 85. f. 12; Hmps. Moths Ind. ii. p. 9; Kirby, Cat. Het. p. 230.

Spilarctia ione, Butl. Cist. Ent. ii. p. 41 (1875); id. Ill. Het. B. M. iii. p. 6, pl. 42. f. 6; Kirby, Cat. Het. p. 231.

Spilarctia confusa, Butl. Cist. Ent. ii. p. 42 (1875); id. Ill. Het. B. M. v. p. 33, pl. 85. f. 13; Kirby, Cat. Het. p. 231.

Spilarctia mollicula, Butl. A. M. N. H. (4) xx. p. 395 (1877); id. Ill. Het. B. M. iii. p. 6, pl. 42. f. 7; Kirby, Cat. Het. p. 231.

Spilosoma mandarina, Moore, A. M. N. H. (4) xx. p. 88 (1877); Kirby, Cat. Het. p. 231.

- Spilosoma howqua*, Moore, A. M. N. H. (4) xx. p. 88 (1877); Butl. Ill. Het. B. M. vii. p. 28, pl. 122. f. 3; Kirby, Cat. Het. p. 231.
Spilarctia howra, Moore, Lep. Atk. p. 40 (1879); Kirby, Cat. Het. p. 232.
Spilarctia dalbergiæ, Moore, P. Z. S. 1888, p. 394; Butl. Ill. Het. B. M. vii. p. 28, pl. 122. f. 2; Hmps. Moths Ind. ii. p. 4; Kirby, Cat. Het. p. 231.
Spilarctia bifascia, Hmps. Ill. Het. B. M. viii. p. 55, pl. 140. f. 21 (1891); id. Moths Ind. ii. p. 9; Kirby, Cat. Het. p. 232.
Spilosoma bisecta, Leech, Trans. Ent. Soc. 1899, p. 148; Kirby, Cat. Het. p. 230.

♂. Pale buff; palpi black above and at extremity, crimson at base; sides of frons usually and antennæ black; thorax sometimes with black stripe on vertex; legs mostly black, the fore coxæ and femora crimson above; abdomen crimson above except at base and extremity, with dorsal, lateral, and sublateral series of black spots. Fore wing often with antemedial black point above vein 1 and point at upper angle of cell; an oblique postmedial series of slight striæ on each side of veins 4 to 1 and others towards apex on each side of veins 6, 7; subterminal points on each side of veins 3, 4, 5. Hind wing paler; a black discoidal spot; a subterminal series formed by spots on each side of veins 7, 5, 2, and 1, those towards apex often obsolete. Underside of fore wing with the postmedial maculate band curved round to costa, the basal half sometimes tinged slightly with crimson.

♀. Both wings with the spots usually more or less obsolete, one specimen from Bhután being unmarked except for the discal spot of hind wing.

Ab. 1. Strongly tinged with yellow-brown.—Hai-ning.

Ab. 2. *dalbergiæ*. Abdomen of female orange-yellow.—Kangra.

Ab. 3. Hind wing with the inner area tinged with crimson; underside of fore wing suffused with crimson except towards apex.—Hongkong, Foochow.

Ab. 4. *confusa*. Hind wing above wholly, and sometimes the fore wing above tinged with crimson.—Bombay, Travancore, Burma.

Ab. 5. *bifascia*. Fore wing with the series of spots more complete; underside with black fascia in and below cell and two postmedial bands.—Nilgiris.

Ab. 6. *todara*. Head, thorax, and fore wing of male strongly tinged with red-brown, the hind wing with crimson. Female: abdomen orange above; wings whitish ochreous with the black markings reduced.—Nilgiris.

Hab. JAPAN, Hakodate, types ♀ *ione* and *mollicula*, Nagasaki (Leech), 1 ♂ type *bisecta*, Yokohama (Manley, Pryer), 4 ♀, Tokio (Fenton), 2 ♀; COREA, Gensan (Leech), 3 ♀; CHINA, Shanghai (Pryer), 3 ♂, 1 ♀, types *howqua* and *mandarina*, Omei-shan, 2 ♀, Chia-kou-ho (Pratt), 1 ♀, Moupin (Kricheldorf), 1 ♀, Hai-ning, 1 ♀, Hongkong (J. J. Walker), 1 ♂, Foochow (Leech) 1 ♂, (*de la Touche*) 1 ♀, Swatow, 1 ♀; N. INDIA, 3 ♂, 1 ♀, type and type *confusa*; KANGRA (*Hocking*), 1 ♂, 3 ♀, type *dalbergiæ*; NEPAL,

2 ♀ type *nydia*; SIKHIM (*Lidderdale*), 1 ♂, 4 ♀; BHUTÁN (*Dudgeon*), 1 ♀; CALCUTTA, 1 ♂ type *howra*; BOMBAY (*Swinhoe*), 1 ♂, 4 ♀; NILGIRIS (*Lindsay*), type ♂ *bifascia*, (*Hampson*), 5 ♂, 4 ♀, type *todara*; TRAVANCORE, Trevandrum (*Fergusson*), 1 ♀; BURMA, Rangoon (*Scott*), 1 ♂, 1 ♀, Thyetmyo (*E. Y. Watson*), 1 ♀. *Exp.*, ♂ 42-58, ♀ 50-66 millim. The type is from India, not Australia.
Larva. Black, hairy.

1757. *Diacrisia casigneta*. (Plate XLV. fig. 5.)

Euprepia casigneta, Koll. Hügel's Kaschmir, iv. (2) p. 469 (1844); Hmps. n.

Moths Ind. ii. p. 9; Kirby, Cat. Het. p. 231.

Spilosoma sanguinalis, Moore, P. Z. S. 1865, p. 810.

Spilarctia sagittifera, Moore, P. Z. S. 1888, p. 394.

Brownish buff; palpi, lower part of frons, antennæ, front of pectus, stripes on legs, and sometimes a short stripe on vertex of thorax black; coxæ and femora above crimson; abdomen crimson above except at base and extremity, dorsal, lateral, and sublateral series of black points. Fore wing with antemedial black point below median nervure and another above vein 1 on traces of a brownish line; traces of a brownish postmedial line excurved from costa to vein 3, then incurved, with pairs of black points on it on each side of the veins and sometimes larger spots near inner margin; obliquely placed black points on each side of veins 6, 7 towards apex and subterminal points on each side of veins 3, 4, 5. Hind wing paler, the inner area often tinged with crimson; a discoidal black spot, two spots towards tornus, and often one subterminal above vein 5. Underside of fore wing with the disk often suffused with crimson; a black discoidal lunule and a more or less interrupted black postmedial band angled outwards above vein 5.

Ab. 1. Head and thorax above black.

Ab. 2. Abdomen orange-yellow above.

Hab. W. CHINA, Washan (*Pratt*), 1 ♂, Pu-tsu-fong, 1 ♂; N.W. HIMALAYAS, Dalhousie (*Harford*), 7 ♂, 3 ♀, Dharmasála (*Hocking*), 1 ♂, 2 ♀, Deyra Dhun, 1 ♂; TIBET, Yatung (*Hobson*), 1 ♂; SIKHIM (*Lidderdale*), 7 ♂, 6 ♀, type *sanguinalis*. *Exp.*, ♂ 46, ♀ 52-62 millim.

1758. *Diacrisia flaveola*. (Plate XLV. fig. 6.)

Spilosoma flaveolum, Leech, Trans. Ent. Soc. 1899, p. 154.

♀. Orange tinged with vermilion; palpi at tip and antennæ black; legs striped with black above; abdomen scarlet above except at base and extremity, dorsal and lateral series of black spots. Fore wing with black spot in upper angle of cell; an oblique maculate fuscous line from origin of vein 3, becoming obsolescent towards inner margin. Hind wing with fuscous spot in upper angle of cell.

Hab. W. CHINA, Chia-ting-fu, 1 ♀ type. *Exp.* 44 millim.

1759. *Diacrisia multiguttata*.

Hypercompa multiguttata, Wlk. iii. 657 (1855); Hmps. Moths Ind. ii. p. 3; Kirby, Cat. Het. p. 239.

Deiopeia spilosomoides, Wlk. xxxi. 263 (1864); Butl. Ill. Het. B. M. v. p. 30, pl. 85. f. 7; Kirby, Cat. Het. p. 239.

Deiopeia pardalina, Wlk. xxxi. 263 (1864); Kirby, Cat. Het. p. 350.

♂. Head and thorax white; palpi black, fringed with yellowish white below; sides of frons and antennæ black; tegulæ, shoulders, and patagia with black spots; fore coxæ with black spots, legs striped with black; abdomen orange-yellow, with dorsal, lateral, and sublateral series of black spots. Fore wing white; a basal and two subbasal black spots; an antemedial series of five spots, the one below the cell displaced outwards; a medial series strongly angled outwards in lower end of cell; spots on each side of discocellulars; two postmedial series, the 1st bent inwards to costa and excurved beyond lower angle of cell, the 2nd excurved at middle and incurved below costa and vein 3; a subterminal series of short streaks on each side of the veins incurved below costa and bent outwards to tornus; a terminal series of spots. Hind wing yellow, with discoidal black spot, sometimes some spots of the postmedial series present between vein 2 and submedian fold; a subterminal series of spots interrupted at middle; some terminal spots towards apex.

♀. Hind wing with the spots large, the series more complete, a medial series present.

Hab. N.W. HIMALAYAS, Simla (*Harford*), 2 ♂, 2 ♀, Kashmir Jawi, 1 ♂, (*Strachey*) 2 ♂ type *spilosomoides*, Kulu (*G. Young*), 2 ♂, 2 ♀; NEPAL (*Hardwicke*), 2 ♂ type; SIKHIM (*Lidderdale*), 2 ♀; BURMA, Myingyan (*Watson*), 1 ♂; CAMBODIA, type *pardalina* in Mus. Oxon. *Exp.*, ♂ 32-40, ♀ 42-60 millim.

Larva. Butl. Ill. Het. vii. p. 120, pl. 138. f. 9.

Pale green blotched and streaked with white, with sparse black and white hairs; a dorsal series of tufts of red-brown hair on a stripe formed by black specks.

1760. *Diacrisia diplosticha*. (Plate XLV. fig. 22.)

Spilosoma diplosticha, Hmps. Ann. S. Afr. Mus. ii. p. 57 (1900).

♂. Ochreous yellow; palpi above and antennæ black; patagia with black points; fore coxæ and femora, mid tibiæ and the tarsi black above, hind tibiæ with a spot on outer side and the spurs black. Fore wing with antemedial series of three points angled on median nervure; a medial series of points acutely angled on median nervure, the spots towards costa and inner margin larger; two points just beyond discocellulars and three at lower angle of cell; a postmedial series consisting of pairs of points on each side of the veins, strongly excurved from costa to vein 4, then incurved. Hind wing orange-yellow, with black discoidal spot.

♀. Fore wing with the points at lower angle of cell only.

Hab. NATAL, Karkloof (*Marshall*), 1 ♂ type. *Exp.* 42 millim.

1761. *Diacrisia gopara*.

Spilosoma gopara, Moore, Lep. E. I. C. p. 356, pl. 9 a. f. 11 (1859); Hmps. Moths Ind. ii. p. 5; Kirby, Cat. Het. p. 232.

♂. Brownish buff; palpi black, orange below; sides of frons and antennæ black, the latter white towards tips; legs black, the fore coxæ and femora above orange; abdomen orange above, with dorsal, lateral, and sublateral series of black spots. Fore wing with black point at base; a small antemedial black spot on costa, and point above vein 1; a black point in upper angle of cell; traces of a postmedial line strongly excurved from below costa to vein 3, and with black points on costa and on each side of veins 3 to 1; subterminal black points on each side of veins 7 to 2. Hind wing orange, with the interspaces of disk black from near base to near termen.

♀. Hind wing with the black markings reduced to diffused streaks in and below cell, a large discoidal spot, and a subterminal series of spots increasing in size towards tornus.

Hab. SIKHIM (*Lidderdale*), 4 ♀, type; ASSAM, Khâsis, 1 ♂. *Exp.*, ♂ 36, ♀ 56 millim.

1762. *Diacrisia quadrilunata*, n. sp. (Plate XLV. fig. 23.)

♀. Head orange, whitish on vertex; palpi at sides and antennæ black, pectus and legs orange; the tibiæ and tarsi striped with black; abdomen orange, with dorsal series of black points. Fore wing yellowish white, irrorated with a very few black scales; a large black lunule on upper part of discocellulars; the costal edge and cilia yellow. Hind wing orange-yellow, with lunulate black discoidal spot.

Hab. SIERRA LEONE (*Austen*), 1 ♀ type. *Exp.* 40 millim.

1763. *Diacrisia metaxantha*, n. sp. (Plate XLV. fig. 14.)

♀. Head and thorax ochreous white; head tinged with yellow; palpi black, yellow below; antennæ black; tegulæ and patagia with black points; fore coxæ with black spots, legs striped with black above; abdomen orange above, with dorsal black spots on three medial segments. Fore wing ochreous white, with black point in upper angle of cell; postmedial black points above veins 6 and 4, and on one side below vein 3; two subapical points, and two points on termen above middle. Hind wing orange, with slight black point in end of cell and postmedial point below costa. Underside of fore wing suffused with orange to beyond cell, except on costal area; hind wing with the apical area whitish.

Hab. BURMA, Myingyan (*E. Y. Watson*), 1 ♀ type. *Exp.* 50 millim.

1764. *Diacrisia bimaculata*.

Challa bimaculata, Moore, P. Z. S. 1879, p. 398; Hmps. Moths Ind. ii. p. 6; Kirby, Cat. Het. p. 359.

- Challa discalis*, Moore, P. Z. S. 1879, p. 399, pl. 32. f. 7; Hmps. Moths Ind. ii. p. 13; Kirby, Cat. Het. p. 359.
Challa quadrimaculata, Moore, P. Z. S. 1888, p. 395; Butl. Ill. Het. vii. p. 32, pl. 122. f. 9; Kirby, Cat. Het. p. 359.

Orange-yellow; palpi marked with black at sides; antennæ blackish; legs striped with black above; abdomen orange above, with dorsal and lateral series of black points. Fore wing with black spot in upper angle of cell.

Ab. 1. *quadrimaculata*. Hind wing with black spot in end of cell.

Ab. 2. *discalis*. Fore wing with subbasal black spot below costa; three obliquely placed antemedial spots in and below cell and above vein 1, and an oblique series of four spots from just beyond discocellulars to below vein 2.

Hab. N.W. HIMALAYAS, 1 ♂ type *discalis*, Dharmasála (*Hocking*), 1 ♀ type, Palampore (*Hocking*), 2 ♂ type *quadrimaculata*. *Exp.* 30–36 millim.

1765. *Diacrisia madagascariensis*.

Euchætes madagascariensis, Butl. Cist. Ent. iii. p. 3 (1882); Saalm. Léop. Madag. p. 158, pl. 6. f. 83; Kirby, Cat. Het. p. 237.

♂. Head, thorax, and abdomen deep orange; palpi black, fringed with orange; antennæ black; tibiæ and tarsi black above; abdomen with dorsal and lateral series of black spots; wings orange-yellow.

Hab. MADAGASCAR, Betsileo (*Cowan*), 1 ♂ type. *Exp.* 44 millim.

1766. *Diacrisia lucida*. (Plate XLV. fig. 16.)

Euchætes lucida, Druce, A. M. N. H. (7) i. p. 212 (1898).

♂. Head and thorax orange-yellow; palpi fuscous; antennæ black; pectus and legs fuscous; abdomen orange above, fuscous below, with dorsal and lateral series of black points. Fore wing orange-yellow, with black point at lower angle of cell. Hind wing yellowish white.

Hab. E. AFRICA, Teita (*Jackson*), 1 ♂; MASHONALAND, Salisbury (*Marshall*), 1 ♂. *Exp.* 34 millim. Type † in Coll. Druce.

1767. *Diacrisia flava*. (Plate XLV. fig. 17.)

Sænura flava, Wlgrn. Wien. ent. Mon. iv. p. 162 (1860); Kirby, Cat. Het. p. 233.

♂. Bright yellow; head and tegulæ orange; palpi black, fringed with yellow; antennæ black; legs blackish above; abdomen orange, with dorsal and lateral series of black spots, the ventral surface, except at extremity, with more or less deeply tinged fuscous patch; wings immaculate; hind wing paler.

♀. Thorax and fore wing yellowish white or deep yellow.

Hab. TRANSVAAL, Potchefstroom Distr. (*Alston*), 1 ♂; NATAL (*Dr. Smith, Heale*), 2 ♂, 1 ♀; C. COLONY, Grahamstown, 1 ♀. *Exp.* 42 millim.

1768. *Diacrisia costata*.

Chelonia costata, Boisd. Voy. Astrolabe, Lép. p. 213, pl. 5. f. 6 (1832).

Orange-yellow; palpi at sides and antennæ black; legs striped with black; abdomen with dorsal, lateral, and sublateral series of black spots except at base and extremity. Fore wing with the veins streaked with black.

Hab. NEW IRELAND; DUKE OF YORK IS., 2 ♂, 1 ♀. *Exp.*, ♂ 46, ♀ 60 millim.

*1769. *Diacrisia pelopea*.

Euchaetes pelopea, Druce, Biol. Centr.-Am., Het. ii. p. 393, pl. 77. f. 8 (1897).

♀. Head orange; palpi black towards tips; antennæ black except at base; thorax yellowish white, the tegulæ except at base, and outer side of patagia orange; coxæ orange; legs fuscous black and yellowish white; abdomen orange, with dorsal, lateral, and sublateral series of black points, the base of dorsum and ventral surface yellowish white. Fore wing yellowish white; the basal half of costal edge black; vein 1, the median nervure, veins 2, 3, 4, 5, 6, 7, and extremity of 8 with fine black streaks. Hind wing yellowish, with terminal series of black points.

Hab. MEXICO, Guadalajara, 1 ♀ type † in Coll. Schaus. *Exp.* 40 millim.

1770. *Diacrisia lutescens*. (Plate XLV. fig. 7.)

Spilosoma lutescens, Wlk. iii. 672 (1855); Kirby, Cat. Het. p. 243.

Halesidota mundata, Wlk. xxxi. 309 (1864).

Binna penicillata, Wlk. xxxi. 319 (1864); Kirby, Cat. Het. p. 241.

Spilosoma screabile, Wlgrn. Cefv. Vet.-Akad. Förh. xxxii. (1) p. 102 (1876).

Orange-yellow; head orange, or lower part of frons grey, or head grey with orange band behind; palpi blackish, orange below; antennæ blackish; tegulæ and patagia grey, edged with orange; vertex of thorax grey; tibiæ and tarsi fuscous grey above; abdomen with dorsal and lateral series of short black bands or spots, the ventral surface pale. Fore wing with the interspaces paler, more or less strongly developed grey streaks in and below cell and above veins 2 and 5, or in all the terminal interspaces, often hardly traceable. Hind wing often whitish except inner area.

Ab. 1. *mundata*. Thorax and fore wing almost white, the latter with the costa and cilia yellow.

Hab. SIERRA LEONE (*Morgan, Foxcroft*), 3 ♂, type and types *mundata* and *penicillata*; OLD CALABAR (*Miss Kingsley*), 1 ♂, 1 ♀; BR. E. AFRICA, Kikuyu, Nairobi (*Crawshay*), 1 ♂; MASHONALAND, Salisbury (*Marshall*), 4 ♂; NATAL (*Gooch*), 3 ♀, Durban (*Bowker*), 1 ♂, 1 ♀, Karkloof (*Marshall*), 1 ♂. *Exp.* 38–56 millim.

1771. *Diacrisia rhodesiana*. (Plate XLV. fig. 24.)

Diacrisia rhodesiana, Hmps. Ann. S. Afr. Mus. ii. p. 57 (1900).

♂. Head and thorax pale grey-brown; palpi above and branches of antennæ black; vertex of head and edges of tegulæ, patagia, and thorax orange-red; pectus orange-yellow; fore legs and mid and hind tibiæ and tarsi above fuscous: abdomen orange, with dorsal series of black bands and lateral series of points, the ventral surface greyish. Fore wing yellow, the interspaces almost filled by pale grey-brown fasciæ, leaving streaks on the veins and in cell and submedian fold yellow. Hind wing yellowish white.

♀ rather darker; hind wing orange-yellow.

Hab. MASHONALAND, Salisbury (*Marshall*), 3 ♂, 2 ♀ type. *Exp.*, ♂ 46, ♀ 56 millim.

1772. *Diacrisia scita*. (Plate XLV. fig. 15.)

Antheua scita, Wlk. xxxi. 298 (1864); Kirby, Cat. Het. p. 243.

♂. Orange; palpi blackish, orange below; lower part of frons and antennæ grey-brown; tegulæ and patagia grey-brown edged with orange; vertex of thorax grey-brown; legs striped with blackish; abdomen with dorsal series of short black bands, and lateral series of spots. Fore wing with the interspaces nearly filled by grey-brown fasciæ. Hind wing with the interspaces fuscous black, leaving the veins, part of inner area, and cilia orange.

Hab. NATAL (*Gueinzus*), 3 ♂ type, Malvern (*Marshall*), 1 ♂, Durban (*Gooch*), 1 ♂. *Exp.* 40–44 millim.

1773. *Diacrisia latiradiata*, n. sp. (Plate XLV. fig. 11.)

♀. Head and thorax yellow tinged with olive-brown; palpi, lower part of frons, antennæ, a broad stripe on vertex of thorax, pectus, and legs deep black; abdomen orange above, with segmental black bands expanding into dorsal spots, a lateral series of black spots connected with the black ventral surface which has a series of orange spots reduced towards extremity. Fore wing fulvous orange, with deep black fasciæ nearly filling the cell, submedian interspace, and the interspaces beyond the cell; a slight postmedial black streak above inner margin. Hind wing fuscous black, the base yellowish, the cilia yellow.

Hab. BR. C. AFRICA, Fwambo (*Nutt*), 1 ♀ type. *Exp.* 46 millim.

1774. *Diacrisia bretaudiau*.

Gonerda bretaudiau, Oberth. Ét. Ent. xx. p. 55, pl. x. ff. 179, 180 (1896); Hmps. Moths Ind. iv. p. 491.

♂. Head and thorax olive-yellow; palpi black at sides, a black streak on frons and vertex of head; tegulæ, vertex of thorax, and upper edge of patagia with black streaks; neck with crimson ring;

pectus and legs black, the femora and fore tibiæ crimson above; abdomen crimson with dorsal black stripe, a lateral series of spots and the ventral surface black. Fore wing olive-yellow; the subcostal and median nervures whitish; a black streak below base of costa and a fascia below median nervure to medial band; a narrow antemedial band interrupted at the veins, very strongly angled inwards on subcostal nervure and outwards on median nervure; a medial band arising from the same point on costa, interrupted at the veins and very strongly angled outwards on median nervure; an oblique discoidal spot with spot above it on costa; the postmedial band arising at upper angle of cell, strongly excurved to vein 3, then oblique; an oblique subterminal spot below costa, a maculate band from vein 6 to 2, and a spot on inner margin conjoined to the terminal band which has a dentate inner edge; cilia whitish. Hind wing crimson, with curved medial band from below costa to vein 1; a discoidal lunule; a curved and waved postmedial line angled outwards at vein 4 and ending at vein 1; a subterminal band from costa to submedian fold and a spot above tornus; cilia whitish. Underside of fore wing almost entirely suffused with black.

♀ with the wings aborted and much reduced.

Hab. TIBET, Yatong (*Bingham*), 2 ♂. *Exp.* 52 millim.

1775. *Diacrisia perornata*.

Gonerda perornata, Moore, P. Z. S. 1879, p. 395, pl. 32. f. 2; *Hmps. Moths Ind.* ii. p. 16; Kirby, *Cat. Het.* p. 248.

♂. Head black; shaft of antennæ and thorax olive-yellow, with black stripes on patagia and dorsum; pectus and legs black, the femora crimson above; abdomen crimson above, with dorsal black stripe, a lateral series of black spots, and the ventral surface black. Fore wing olive-yellow; some black markings at base and a wedge-shaped patch below the cell; an antemedial band interrupted at the veins and strongly angled on median nervure; a medial band angled inwards on subcostal nervures and outwards on median nervure; an oblique discoidal spot; the postmedial band strongly excurved from below costa to vein 3, then incurved to below end of cell; a subterminal band curved from costa to submedian fold, where it is interrupted; a terminal band with waved inner edge. Hind wing crimson; a black antemedial band; a medial band angled outwards beyond lower angle of cell, then narrower; a curved subterminal band interrupted at submedian fold; a terminal line from apex to vein 2; cilia yellow.

♀. Abdomen crimson above, with dorsal black spots and sublateral bands, or black with crimson segmental lines; the bands of both wings either very broad and the antemedial and medial bands conjoined or much reduced; hind wing with the base sometimes black and the terminal line absent.

Hab. KASHMIR, 1 ♂ type, Kokser (*McArthur*), 1 ♀. *Exp.* 41–48 millim.

1776. *Diacrisia purpurata*.

Bombyx purpurata, Linn. Syst. Nat. i. p. 505 (1758); Staud. Cat. p. 57; Kirby, Cat. Het. p. 260.

Bombyx purpurea, Linn. Syst. Nat. i. (2) p. 828 (1769); Esp. Schmett. iii. p. 325, pl. 65. ff. 1-5; Hübn. Eur. Schmett. ii. ff. 142, 229; Godt. Lép. Fr. iv. p. 339, pl. 35. ff. 2, 3.

Arctia purpurea, ab. *flava*, Staud. Cat. p. 57 (1861).

Arctia purpurea, ab. *caucasica*, Alph. Trudui Ent. Ross. x. p. 14 (1878).

Bright yellow; palpi, frons, antennæ, and legs brownish; some crimson on basal joint of palpi, behind the eyes, and on femora above; abdomen with dorsal and lateral series of black spots, the ventral surface tinged with crimson. Fore wing with antemedial, medial, postmedial, and subterminal series of grey-brown spots, those on costa larger except in the subterminal series; some points in and beyond angles of cell; some marks beyond the subterminal series of spots at middle and towards apex. Hind wing scarlet; the inner margin and cilia yellow; an oblique antemedial series of spots or maculate band; a large discoidal lunule; three large subterminal spots below costa and on veins 5 and 2 and a smaller spot at tornus.

Ab. 1. *flava*. Hind wing yellow.

Ab. 2. *caucasica*. Fore wing with the spots almost obsolete.

Hab. FRANCE; SWITZERLAND, Frey Coll.; GERMANY, Zeller Coll.; ITALY; DALMATIA; GREECE (*Merlin*); ARMENIA; ALTAI; AMUR; JAPAN, Oiwake (*Pryer*), 1 ♂; COREA, Gensan (*Leech*), 1 ♀. *Exp.*, ♂ 44, ♀ 52 millim.

Larva. Kirby, Eur. Butt. Moths, pl. 23. f. 8 a.

Black, with tufts of rufous hair, the hair at sides yellow; dorsal and lateral yellow stripes.

1777. *Diacrisia amurensis*.

Chelonia amurensis, Brem. Bull. Acad. Pét. iii. p. 477 (1861); id. Lep. Ost-Sib. p. 39, pl. 3. f. 16; Kirby, Cat. Het. p. 250.

♂. Bright mustard-yellow; palpi black above, crimson below; frons black; antennæ brown; pectus crimson and brown; legs brown, with the femora crimson above; abdomen scarlet, with dorsal and lateral series of black spots. Fore wing with the costal edge blackish; three obliquely placed antemedial black points below costa and one or two above inner margin; a black point in upper angle of cell and sometimes others beyond upper and lower angles, and sometimes postmedial points above inner margin and veins 2 and 5. Hind wing scarlet; a small medial spot below the cell, and sometimes one on vein 1; a discoidal lunule; some conjoined subterminal spots towards costa, a large spot on vein 2 and a small spot on vein 1. Underside of fore wing scarlet with black spot in cell, a medial band angled below the cell, discoidal lunule, and three or four postmedial spots.

♀. More fulvous-yellow; abdomen with sublateral fuscous stripes; fore wing with the black points absent except the one in upper angle of cell; some antemedial rufous spots; a medial rufous line angled below cell; a large discoidal spot conjoined to a large patch at lower angle of cell; a postmedial line angled at middle; some subterminal spots and some suffusion on termen; hind wing with medial black band.

Hab. AMUR, 1 ♂, Zeller Coll.; JAPAN, Tokio (*Fenton*), 1 ♂, 1 ♀, Yokohama (*Pryer*), 1 ♂, 1 ♀, Hakodaté (*Andrews*), 2 ♂; W. CHINA, Chang-yang (*Pratt*), 1 ♂, 1 ♀, Pu-tsu-fong, 1 ♂, Kiukiang (*Pratt*), 2 ♀, Chia-kou-ho (*Pratt*), 1 ♀, Washan (*Pratt*), 1 ♀, Moupin (*Kricheldorf*), 1 ♂, 1 ♀. *Exp.*, ♂ 58, ♀ 64 millim.

1778. *Diacrisia metalkana*.

Nemeophila metalkana, Led. Wien. ent. Mon. v. p. 162, pl. 3. f. 12 (1861); Friv. Magy. Tud. Akad. Évk. xi. (4) p. 146, pl. 4. ff. 6 a, b; Mill. Ann. Soc. L. Lyon (2) xi. p. 23, pl. 40. ff. 1-4; Staud. Cat. p. 56; Kirby, Cat. Het. p. 249.

Chelonia flavida, Brem. Bull. Acad. Pét. iii. p. 477 (1861); id. Lep. Ost-Sib. p. 39, pl. 4. f. 4.

♂. Bright mustard-yellow; palpi and frons rufous, the former crimson below; antennæ yellowish white; pectus and legs rufous; lines behind the eyes, coxæ at sides, and femora above crimson; abdomen scarlet, with dorsal and lateral series of black spots. Fore wing with black point at base; an antemedial point above vein 1; a point in middle of cell; a medial series of points sometimes present, angled outwards to lower angle of cell; points in the angles of cell; a pinkish and brown streak on terminal part of median nervure ending in a spot at end of cell; subterminal black points on each side of vein 5, and sometimes others below costa and vein 2; cilia pinkish. Hind wing scarlet; a black spot below origin of vein 2 sometimes present; a large discoidal lunule; some subterminal spots towards costa and larger spots on veins 2 and 1. Underside of fore wing scarlet, with black spot in cell, discoidal lunule, and three subterminal spots.

♀. More fulvous yellow; fore wing with the veins streaked with scarlet; the black points usually absent and replaced by scarlet lines.

Hab. HUNGARY, 2 ♀, Zeller & Frey Colls.; AMUR; JAPAN, Yesso (*Pryer*), 1 ♂, 1 ♀, (*Jonas*) 1 ♂, Nikko, Tokio (*Lewis*), 3 ♂, Loochoo (*Pryer*), 2 ♀; COREA, Gensan (*Leech*), 1 ♂; CHUSAN I. (*J.J. Walker*), 2 ♀. *Exp.* 44-52 millim.

1779. *Diacrisia sannio*.

Bombyx sannio, Linn. Syst. Nat. i. p. 506 (1758); Kirby, Cat. Het. p. 249.

Geometra vulpinaria, Linn. Syst. Nat. i. p. 520 (1758).

Bombyx russula, Linn. Syst. Nat. i. p. 510 (1758); Clerck, Icones, pl. 4. f. 1; Esp. Schmett. iii. p. 337, pl. 67. ff. 2-7; Curt. Brit. Ent. i. pl. 21; Godt. Lép. Fr. iv. p. 343, pl. 35. f. 4; Staud. Cat. p. 56.

Diacrisia irene, Butl. Trans. Ent. Soc. 1881, p. 6; Kirby, Cat. Het. p. 249.
Nemeophila russula, var. *mortua*, Staud. Stett. ent. Zeit. xlviii. p. 78 (1887).

♂. Mustard-yellow; head dark brown; antennæ with the shaft pink above; pectus and legs fuscous with some greyish hair, the legs striped with pink; abdomen pale yellowish largely tinged with fuscous. Fore wing with the costa fuscous, pink towards apex; a pink fascia on inner margin with some fuscous on margin; a pink and fuscous discoidal patch; cilia pink. Hind wing pale yellowish, the basal area usually suffused with fuscous; a large fuscous discoidal spot; a diffused subterminal band; cilia pink. Underside of fore wing with the basal area suffused with fuscous; a fuscous postmedial band angled at veins 5 and 2.

♀. Fulvous orange; palpi, frons, and antennæ pinkish; abdomen with dorsal and lateral series of black spots, or dorsal bands; wings with the veins red; fore wing with more or less developed discoidal fuscous patch; hind wing brighter, the basal area suffused with black; a large discoidal spot and a more or less conjoined subterminal series of spots.

Ab. 1. *irene* ♂. Fore wing with the markings reduced to a pink point at lower angle of cell; hind wing without markings.—Japan.

Ab. 2. *mortua*. Inner margin of fore wing and cilia not pink; female more suffused with black.—N. Asia, Transalai, Margellan.

Hab. EUROPE, except Arctic region, Zeller and Frey Colls.; ARMENIA; SIBERIA; AMUR, 1 ♀; JAPAN, Oiwake (*Pryer*), 3 ♂, 2 ♀, Tokio (*Fenton*), 2 ♂, 2 ♀, type *irene*; COREA, Gensan (*Leech*), 1 ♀; W. CHINA. *Exp.* 38-54 millim.

Larva. Meyr. Brit. Lep. p. 41; Barrett, Lep. Brit. p. 257, pl. 74. f. 1.

Brown; tubercles blackish; hairs brown; dorsal line ochreous or orange; spiracles ochreous or white; head dark brown. Food-plants: *Hieraceum*, *Erica*, *Scabiosa*, etc. 8-5.

*1780. *Diacrisia ornata*.

Arctia ornata, Staud. Iris, ix. p. 188, pl. iv. ff. 1, 2 (1896).

♂. Head and thorax pale brownish; tegulæ with blackish spots; patagia and thorax with blackish streaks, the latter with fulvous spot behind the collar; abdomen pale brownish with black dorsal bands, the extremity, pectus, and ventral surface fulvous. Fore wing pale yellow; a subbasal black point below costa; a small antemedial spot on costa, point in cell, and short streak below the cell; medial, postmedial, and subterminal spots on costa, the two last confluent with a broad irregular oblique fascia from apex to lower end of cell, then along median nervure to before middle, this being conjoined by two irregular bands to the fascia on inner margin; the termen black, expanding into dentate marks at middle. Hind wing white; a forked black fascia below the cell from base to beyond middle; a discoidal lunule; subterminal spots

on costa and below vein 6, and conjoined spots between vein 3 and tornus; some black on termen, at apex, and some small conjoined spots at middle; costal area yellowish towards apex.

♀. Head and thorax yellow, the vertex of head and metathorax with crimson spots, on the latter V-shaped; abdomen dorsally tinged with scarlet; fore wing with the black markings somewhat reduced and broken; hind wing orange-scarlet, with black patch below the cell conjoined by two streaks with the complete maculate subterminal band.

Hab. MONGOLIA, Urga. *Exp.* 46 millim. This species is unknown to me.

1781. *Diacrisia flammeola*. (Plate XLV. fig. 10.)

Alpenus flammeolus, Moore, A. M. N. H. (4) xx. p. 89 (1877); Kirby, Cat. Het. p. 239.

♀. Orange-vermilion; palpi, antennæ, and legs tinged with fuscous; abdomen with slight dorsal and lateral series of black spots. Fore wing with medial series of fuscous spots edged by yellowish, oblique from costa to median nervure where it is angled, then incurved; a postmedial series angled at vein 5, then strongly incurved; small subterminal spots above veins 5 and 1. Hind wing with discoidal spot; cilia of both wings yellow.

Hab. JAPAN (*Pryer*), 1 ♂, Nagasaki (*Leech*), 2 ♂, Simonoseki (*Leech*), 1 ♂; N. CHINA, Chekiang (*Pryer*, *Pratt*), 2 ♀ type, Ningpo, 1 ♀. *Exp.* 40 millim.

1782. *Diacrisia biseriata*. (Plate XLV. fig. 8.)

Alpenus biseriatus, Moore, P. Z. S. 1877, p. 596; Hmspn. Moths Ind. ii. p. 14; Kirby, Cat. Het. p. 239.

♀. Orange tinged with vermilion; palpi black towards tips; legs streaked with black; abdomen with dorsal and lateral series of black spots. Fore wing with some small subbasal black spots; a medial series angled at median nervure and with small spot beyond it above vein 2; spots at two angles of cell; a postmedial series of spots excurved from below costa to vein 3, then incurved. Hind wing with black discoidal spot and spots on inner margin before middle and at tornus.

Hab. ANDAMANS, 1 ♀ type. *Exp.* 36 millim.

1783. *Diacrisia eximia*.

Alpenus eximia, Swinh. Trans. Ent. Soc. 1891, p. 137, pl. 8. f. 8; Hmspn. Moths Ind. ii. p. 14; Kirby, Cat. Het. pp. 307, 909.

♂. Orange-vermilion; palpi at tips, sides of frons, patches on tegulæ and patagia, and streaks on legs black. Fore wing with black spot at base; a streak on base of costa to the curved ante-medial band; the medial and postmedial bands conjoined from median

nervure to inner margin, forming a Y-shaped band angled outwards beyond lower angle of cell and somewhat maculate towards costa; a sinuous subterminal series of spots. Hind wing with discoidal black points; a subterminal series of spots, those between veins 3 and 5 smaller.

Hab. N. CANARA, 1 ♂ type. *Exp.* 30 millim.

1784. *Diacrisia longiramia*, n. sp. (Plate XLVI. fig. 1.)

♂. Antennæ with the branches long; brown-buff; palpi, lower part of frons, antennæ, and stripes on legs black; fore coxæ and femora above crimson; abdomen crimson above except at base and extremity, with dorsal, lateral, and sublateral series of black points. Fore wing with antemedial rufous point in cell and sinuous line from origin of vein 2 to inner margin; a discoidal spot; a rufous postmedial line excurved from costa to vein 3, then incurved. Hind wing crimson, with black discoidal lunule; a subterminal series of diffused black spots from above vein 5 to tornus, towards which they become large and elongate. Underside of fore wing with the discoidal spot and postmedial line blackish.

Hab. SUMATRA (*C. Curtis*), 1 ♂ type. *Exp.* 52 millim.

1785. *Diacrisia montana*.

Arctia montana, Guér. Delessert, *Souv. Voy. Inde*, ii. p. 92, pl. 26. f. 3 (1843); *Hmpsn. Moths Ind.* ii. p. 7; Kirby, *Cat. Het.* p. 231.

Spilosoma suffusa, Wlk. iii. 677 (1855).

? *Spilosoma brunnea*, Moore, *P. Z. S.* 1872, p. 574; *Hmpsn. Moths Ind.* ii. p. 9; Kirby, *Cat. Het.* p. 232.

Antennæ of male with the branches rather long; red-brown; palpi blackish, crimson at base; antennæ blackish; legs blackish, the femora crimson above; abdomen crimson above, with some brown hair at base, dorsal, lateral, and sublateral series of black points. Fore wing sometimes tinged with crimson on disk and on costal edge; a black point at base; an antemedial black spot above vein 1 and one at upper angle of cell usually present; two postmedial maculate lines strongly excurved from costa to vein 3, then incurved, sometimes obsolescent; a subterminal series of points or short streaks on each side of the veins. Hind wing ochreous, the inner area tinged with crimson or wholly suffused with crimson; a black discoidal spot and usually subterminal spots on veins 5, 2, and 1. Underside with the basal half slightly tinged with crimson, or the whole wing suffused with crimson.

Hab. PUNJAB (*Hearsay*), 1 ♂ type *suffusa*, Jubbulpur, 2 ♂, 1 ♀; RAJPUTANA, 1 ♂; BOMBAY; NILGIRIS (*Hampson*), 2 ♂, 1 ♀. *Exp.*, ♂ 44, ♀ 54 millim.

Larva. Moore, *Lep. E. I. C.* pl. xvi. f. 10.

Pale red-brown, palest towards dorsum; head black, the thoracic and last four segments with dorsal black patches; hairs long, sparse, black; legs black; prolegs grey.

1786. *Diacrisia albicornis*. (Plate XLVI. fig. 16.)

Spilosoma albicornis, Hmps. J. Bomb. N. H. Soc. xiii. p. 499 (1900).

♂. Antennæ with the branches rather long; bright chestnut-brown; head tinged with crimson; palpi crimson, black at tips; sides of frons black; antennæ black, the shaft pure white above; tibiæ and tarsi black; pectus, coxæ, femora, and abdomen crimson, the last with short dorsal black bars and lateral and sublateral series of points. Fore wing with black spot at upper angle of cell; the postmedial line curved from below costa to vein 3, then incurved to middle of inner margin; subterminal black points on each side of veins 2 and 1. Hind wing crimson, with black discoidal spot and subterminal spots below costa, on each side of veins 5, 2, and 1. Underside of fore wing with the disk suffused with crimson.

Hab. CEYLON (*Green*), 1 ♂ type. *Exp.* 56 millim.

1787. *Diacrisia rubilinea*. (Plate XLVI. fig. 8.)

Spilosoma rubilinea, Moore, P. Z. S. 1865, p. 810; Hmps. Moths Ind. ii. p. 8; Kirby, Cat. Het. p. 231.

Spilosoma discinigra, Moore, P. Z. S. 1865, p. 810; Kirby, Cat. Het. p. 232.

Ochreous strongly tinged with red-brown; palpi, lower part of frons, antennæ, stripes below shoulders and on legs black; coxæ and femora above crimson; abdomen crimson above except at base and extremity, dorsal, lateral, and sublateral series of black points. Fore wing with rather obscure scarlet antemedial line, oblique from costa to below cell, where it is acutely angled, usually with black points on it below cell and above vein 1; a scarlet and black discoidal spot; an obscure postmedial scarlet line excurved from costa to vein 3, then incurved, usually with pairs of black points on each side of the veins; traces of a sinuous subterminal scarlet line with some black points on it towards inner margin, and others towards apex on each side of veins 6, 7, and beyond it on each side of veins 3, 4, 5. Hind wing yellower, the inner area tinged with crimson; a black discoidal spot; a maculate subterminal band usually interrupted or obsolete towards costa and often with black points beyond it on each side of veins 4 to 7. Underside of fore wing with the disk suffused with crimson; a black discoidal spot and a postmedial band reduced to a spot below costa and obsolete towards inner margin.

Ab. 1. *discinigra*. Hind wing with the basal area suffused with black.

Ab. 2. Hind wing wholly suffused with fuscous.

Hab. W. CHINA, Pu-tsu-fong, 5 ♂; SIKHIM (*Russell, Lidderdale*), 6 ♂, 2 ♀, type; ASSAM, Shillong; BURMA. *Exp.*, ♂ 54, ♀ 64 millim.

1788. *Diacrisia sordidescens*, n. n. (Plate XLVI. fig. 2.)

Spilosoma sordida, Moore, P. Z. S. 1865, p. 808 (nec Hübn.); Hmps. Moths Ind. ii. p. 14; Kirby, Cat. Het. p. 230.

♂ Pale dull reddish brown; palpi, sides of frons, antennæ, and legs above blackish; abdomen crimson above except at base and extremity, dorsal, lateral, and sublateral series of black spots. Fore wing with traces of curved dark antemedial line; a more distinct postmedial line oblique below vein 3; traces of an oblique series of short streaks from apex to vein 5 and of subterminal streaks on veins 5 to 3. Hind wing rather paler, with dark discoidal spot and subterminal spots above vein 5 and towards tornus.

Hab. СИМЛІ, 2 ♂ type. *Exp.* 34 millim.

1789. *Diacrisia castanea*.

Spilosoma castanea, Hmps. Ill. Het. B. M. ix. p. 79, pl. 158. ff. 26, 27 (1893); id. Moths Ind. ii. p. 8.

♂. Head and thorax dark red-brown; palpi, antennæ, and greater part of legs dark brown; fore coxæ and the femora crimson; abdomen crimson, with dorsal, lateral, and sublateral series of black points. Fore wing dark red-brown; sometimes some black points at base; an antemedial spot above vein 1, and sometimes some spots between it and costa; black marks in and beyond angles of cell, with a spot above them on costa; a more or less complete postmedial maculate band formed by irregular patches, curved from costa to vein 2, retracted to cell at origin of vein 2; cilia blackish. Hind wing black-brown, with a black discoidal spot and slight traces of scarlet on termen. Underside of fore wing with scarlet suffusion in and beyond the cell and along vein 1.

♀. Head, thorax, and fore wing pale red-brown, the last with small antemedial black spot above vein 1, a spot in upper angle of cell, the postmedial series reduced to spots on each side of veins 5 to 1. Hind wing scarlet, with black discoidal spot and subterminal series of spots, large from vein 3 to tornus.

Hab. CEYLON, Dickoya (*Green*), 2 ♂, 2 ♀, type. *Exp.*, ♂ 38, ♀ 46 millim.

*1790. *Diacrisia brunnea*. (Plate XLV. fig. 18.)

Arctia brunnea, Heyl. C.R. Soc. Ent. Belg. xxxiv. p. xxix (1890).
Spilarctia heylaertsii, Kirby, Cat. Het. p. 908 (1892).

♂. Head pale brown; palpi, sides of frons, and antennæ blackish; thorax dark brown; fore coxæ at sides and femora above except at extremity crimson; abdomen crimson above, with broad blackish dorsal stripe not reaching extremity, the terminal segment with black band, a lateral series of black spots, the ventral surface brown. Fore wing dark brown; antemedial black spots on each side of vein 1; a postmedial series of spots on each side of the veins, obsolescent and smaller towards costa, curved to vein 4, then

oblique; an oblique series of points on each side of the veins from apex to vein 4, and small spots below vein 2 and above and below 1; subterminal points on each side of veins 5 to 3. Hind wing black-brown, the veins somewhat paler. Underside without any crimson.

Hab. SUMATRA, Fort de Kock, type† ♂ in Coll. Heylaerts.
Exp. 42 millim.

1791. *Diacrisia tigrina*.

Rhyparia tigrina, Moore, P. Z. S. 1879, p. 398, pl. 32. f. 4; Hmps. Moths Ind. ii. p. 22; Kirby, Cat. Het. p. 240.

♂. Brownish ochreous; palpi, sides of frons, and antennæ black; head tinged with fulvous; thorax with dorsal black stripe; pectus and legs mixed with black; abdomen with dorsal black bands and lateral and sublateral series of spots. Fore wing with more or less strongly developed broad irregular black fasciæ on costa, median nervure, and the veins arising from it from base to the postmedial series of spots; a subterminal series of more or less conjoined spots on the veins. Hind wing with large discoidal spot; some black on the veins beyond the cell; a maculate subterminal band interrupted at middle; some slight spots on termen towards apex and tornus.

Hab. S. INDIA, Palni Hills (*Sealy*), 5 ♂ type. *Exp.* 44 millim.

1792. *Diacrisia rufescens*.

Liparis rufescens, Brullé, Webb & Berth. Hist. Nat. Iles Canar. ii. 2. Zool. Ins. p. 95 (1836); Holt-White, Butt. & Moths Teneriffe, p. 71, pl. iv. f. 5; Kirby, Cat. Het. p. 911.

Arctia fortunata, Staud. Iris, iv. pp. 159, 250, pl. 3. f. 3 (1892).

♂. Head and thorax deep red-brown; antennæ with the shaft pinkish; pectus and abdomen paler rufous. Fore wing grey-brown, sparsely irrorated with fuscous; antemedial, medial, postmedial, and subterminal black patches on costa and a spot at lower angle of cell; indistinct medial, postmedial, and subterminal somewhat curved rufous bands. Hind wing flesh-red.

♀. Fore wing redder and thickly irrorated with black; hind wing irrorated with black and with traces of curved postmedial line.

Hab. CANARIES, Teneriffe (*Marsden*, *Holt-White*), 1 ♂, 1 ♀. *Exp.*, ♂ 54, ♀ 58 millim.

Larva. Brown, thickly clothed with long silky hair. Food-plants: dock, sorrel, hollyhock, cabbage.

*1793. *Diacrisia moorei*.

Spilosoma sanguinale, Snell. Tijd. v. Ent. xxii. p. 100, pl. 8. f. 3 (1879); nec Moore.

Spilosoma moorei, Snell. Tijd. v. Ent. xxii. p. 101 (1879).

Spilartia snelleni, Kirby, Cat. Het. p. 231 (1892).

♂. Head, antennæ, and thorax whitish buff; palpi crimson at

base, black at tips; frons black; thorax with black dorsal stripe; legs blackish, femora crimson above; abdomen crimson above, with dorsal, lateral, and sublateral series of black spots, the ventral surface pale buff. Fore wing brown-buff, the veins paler; a black point at base of costa; an antemedial spot on costa with point below it, and obliquely placed spots above and below vein 1; a postmedial spot on costa, and obliquely curved series of almost conjoined spots from vein 5 to inner margin, larger towards the margin; an oblique series of small spots from apex to below vein 6 and points on each side of veins 5 to 3 and above 1. Hind wing buff tinged with crimson, most strongly on inner area; subterminal black spots at veins 5, 2, and 1.

Hab. CELEBES, Lakka, type ♂ in Coll. Snellen. *Exp.* 44 millim.

1794. *Diacrisia strigatula*.

Spilosoma strigatula, Wlk. iii. 613 (1855); Moore, Lep. E. I. C. p. 357, pl. 9a. ff. 12, 12a; Semp. Schmett. Phil. ii. p. 484, pl. lvii. ff. 10, 11, pl. P. ff. 10, 11; Kirby, Cat. Het. p. 250.

Spilosoma rubescens, Wlk. iii. 677 (1855); Kirby, Cat. Het. p. 250.

Chelonia cervina, Wlgrn. Wien. ent. Mon. iv. p. 162 (1864); Kirby, Cat. Het. p. 250.

♂. Antennæ with the branches long; brown-buff; palpi, lower part of frons, often a stripe on vertex of thorax, and the greater part of legs dark brown; fore coxæ and femora above crimson; abdomen crimson above except at base and extremity, dorsal, lateral, and sublateral series of black points. Fore wing with black point at base; an antemedial series of black points, oblique from costa to median nervure where it is angled, and often with a black point before it below median nervure; black points in angles of cell and beyond lower angle; a postmedial series of black points on each side of the veins, excurved from costa to vein 4, then oblique, and with another more regularly curved series beyond it; a subterminal series of points on each side of the veins, obsolete below vein 3, and a series on the cilia. Hind wing orange-scarlet; a black discoidal spot; a subterminal series of irregular spots, the two towards tornus larger. Underside of fore wing with the disk tinged with scarlet.

♀. Fore wing with the series of points usually more or less obsolete, often totally absent.

Ab. 1. Hind wing without black spots; abdomen without black points.

Hab. BURMA, Moulmein (*Clerk*), 1 ♂, 1 ♀, type *rubescens*; PENANG (*S. Flower*), 2 ♀; BORNEO, Sarawak (*Wallace, Bartlett*), 2 ♂, 3 ♀, S.E. Borneo (*Doherty*), 1 ♀; JAVA (*Horsfield*), 7 ♂, 6 ♀, type. *Exp.*, ♂ 42, ♀ 56 millim.

Larva. Moore, Lep. E. I. C. p. 358, pl. 16. ff. 11, 11a.

Black; the warts scarlet with tufts of hair red towards base, brown at tips. Food-plants, *Dioscorea oppositifolia*, etc.

Cocoon dark brown.

1795. *Diacrisia landaca*. (Plate XLVI. fig. 22.)

Arctia landaca, Moore, Lep. E. I. C. p. 358 (1859); Kirby, Cat. Het. p. 250.

♂. Head and thorax dark fuscous brown to yellow-brown; palpi and frons blackish, antennæ whitish with black patch beyond middle; legs blackish, the femora crimson above; abdomen crimson at sides and extremity, the dorsal and ventral surface dark brown; wings greyish or yellow, thickly irrorated and suffused with dark brown. Fore wing with an antemedial black spot on costa, with traces of a waved dark line arising from it, oblique to median nervure, where it is strongly angled; indistinct oblique minutely waved medial and two postmedial lines; traces of subterminal black points between veins 3 and 5. Hind wing with discoidal spot; an indistinct curved postmedial line and a more distinct subterminal maculate band.

Hab. JAVA (*Horsfield*), 1 ♂, 1 ♀ type, Arjuno 3000 ft. (*Doherty*), 4 ♂. *Exp.* 42 millim.

1796. *Diacrisia vagans*.

Arctia vagans, Boisd. Ann. Soc. Ent. Fr. (2) x. p. 322 (1852); Stretch, Zyg. & Bomb. N. Am. p. 192, pl. 8. ff. 8-12; Kirby, Cat. Het. p. 246.

Nemeophila rufula, Boisd. Bull. Soc. Ent. Fr. (3) iii. p. 32 (1855).

Antarctia punctata, Pack. Proc. Ent. Soc. Phil. iii. p. 123 (1864).

Spilosoma pteridis, H. Edw. Proc. Calif. Acad. v. p. 264 (1875).

Antarctia punctata, var. *proba*, H. Edw. Papilio, i. p. 39 (1881).

♂. Ochreous grey, sometimes tinged with reddish brown or fuscous; palpi blackish; antennæ with the shaft whitish, the branches black. Fore wing irrorated with fuscous; two dark discoidal points sometimes placed on a dark line which is oblique from costa to lower angle of cell, then incurved; the postmedial line excurved from below costa to vein 3, then incurved; a subterminal point above vein 5 sometimes present. Hind wing more or less suffused with fuscous, leaving the termen pale; a fuscous discoidal lunule and some subterminal spots.

♀. Ground-colour much more rufous; antennæ with the shaft tinged with red above.

Hab. U.S.A., California, Grote Coll. (*Stretch*), 28 ♂, 2 ♀. *Exp.* 40 millim.

1797. *Diacrisia rubra*. (Plate XLVI. fig. 7.)

Antarctia rubra, Neum. Papilio, i. p. 79 (1881); Kirby, Cat. Het. p. 246.

Antarctia walsinghami, Butl. A. M. N. H. (5) viii. p. 311 (1881); Kirby, Cat. Het. p. 246.

Antarctia rubra, var. *danbyi*, Ent. News, iv. p. 141 (1893).

♂. Head and thorax scarlet or red-brown; antennæ with the shaft scarlet, the branches black; legs scarlet; abdomen ochreous tinged with scarlet. Fore wing red-brown, tinged with scarlet and irrorated with black; a medial black band sometimes present,

angled on median nervure; the postmedial line excurved from costa to vein 3, then incurved. Hind wing black-brown, the inner margin with some rufous hair.

♀. Fore wing with discoidal black lunule; the postmedial line sometimes obsolete; hind wing with the inner and terminal areas rufous irrorated with black; a black discoidal lunule; traces of excurved postmedial and subterminal lines.

Ab. 1. *danbyi*. Head, thorax, and fore wing much browner.—Br. Columbia.

Ab. 2. *walsinghami*. Ground-colour bright vermilion.

Hab. BR. COLUMBIA, Vancouver I. (*Mathew*), 1 ♂; U.S.A., California, Mendocino (*Walsingham*), 2 ♀, Rouge R. (*Walsingham*), 1 ♀ type *walsinghami*. Exp., ♂ 30, ♀ 40 millim.

1798. *Diacrisia imparilis*.

Spilarctia imparilis, Butl. A. M. N. H. (4) xx. p. 394 (1877); id. Ill. Het. B. M. ii. p. 4, pl. 22. f. 4; Kirby, Cat. Het. p. 232.

♂. Dark brown; palpi at tips and antennæ black; tegulæ edged with orange; throat orange; abdomen orange above, with dorsal and lateral series of black spots. Fore wing with black point at base; a medial series of small black spots angled on median nervure; a postmedial series of spots excurved from vein 6 to 3, then incurved, and with three spots beyond it between veins 3 and 6; some subterminal points from below costa to vein 3. Hind wing with obscure subterminal maculate band from vein 6 to tornus.

Ab. 1. Wings unmarked except for a medial black point below vein 1 of fore wing.

♀. Yellowish white; palpi at tips and antennæ black; tegulæ edged with orange, patagia sometimes with black spot. Fore wing with the series of black spots more or less developed; a spot in upper angle of cell sometimes present; sometimes a subterminal series of short streaks on each side of veins 7 to 3. Hind wing immaculate, except sometimes two subterminal points towards tornus.

Hab. JAPAN (*Jonas, Pryer*), 2 ♂, 2 ♀ type, Yezo (*Pryer*), 3 ♂, 3 ♀, Tokio (*Fenton*), 1 ♀, Tsu-shima, 1 ♀, Hakone (*Smith*), 1 ♀. Exp., ♂ 50, ♀ 60 millim.

1799. *Diacrisia melæna*, n. sp. (Plate XLVI. fig. 11.)

♂. Antennæ with the branches long; black-brown; antennæ reddish brown; femora orange above; abdomen yellow, with the hair on base of dorsum black-brown, and dorsal, lateral, and sub-lateral series of black spots. Fore wing with ochreous fascia in submedian fold, sometimes not reaching termen or with small fork near termen; a postmedial line excurved between veins 5 and 3, then incurved, but sometimes absent; the terminal area usually with three obliquely placed spots from near apex; points above veins 4 and 5 and another further from termen above vein 3.

Hind wing pale yellow, with large blackish discoidal spot and smaller medial spots on veins 2 and 1, and a point beyond lower angle of cell; a subterminal series of irregular spots large towards tornus, and a streak on inner area; or with streaks on basal area, a broad medial band, and the subterminal spots more developed; or blackish with yellow streak below basal part of cell and some post-medial spots; cilia of both wings usually mixed with black.

Hab. JAVA, Mt. Arjuno, 8000 ft. (*Doherty*), 3 ♂ type. *Exp.* 50 millim.

*1800. *Diacrisia garida*.

Ardices garida, Swinh. Cat. Het. Mus. Oxon. p. 179, pl. iv. f. 7 (1892).

♀. Head white; palpi, lower part of frons, and antennæ brown; thorax reddish brown, whitish at sides; pectus and legs white, the femora orange above, fore and mid tibiæ and tarsi brown; hind tibiæ spotted with brown; abdomen dorsally black with orange bands, the anal segment orange tipped with white, the ventral surface white, with sublateral series of brown spots, large ventral spots on first three segments. Fore wing reddish brown, with slight white marks at base; a white point on vein 7 beyond angle of cell, and another on costa towards apex. Hind wing white; the basal inner area tinged with brown; a discoidal fuscous patch connected with some conjoined spots from vein 5 to submedian fold; two small spots beyond upper angle of cell; a subterminal series of conjoined spots, partially connected with the spots beyond lower angle of cell, and with some irregular patches on termen.

Hab. AUSTRALIA, 1 ♀ type † in Mus. Oxon. *Exp.* 52 millim.

1801. *Diacrisia phæa*, n. sp. (Plate XLVI. fig. 17.)

♂. Head and thorax dark grey-brown; palpi, lower part of frons, and antennæ black, the palpi yellow below; femora yellow above; abdomen yellow above, with dorsal, lateral, and sublateral series of black points. Fore wing grey-brown, with antemedial black spots on costa and on each side of vein 1; a point in upper angle of cell; an indistinct postmedial line strongly excurved from costa to vein 3, then very obliquely incurved, with black spots at costa and on each side of vein 1, and slight dark marks beyond it below costa; an indistinct oblique maculate line from apex to inner margin near the postmedial line; some slight subterminal dark marks between veins 3 and 5. Hind wing pale grey-brown, the inner area tinged with yellow; traces of a discoidal black point and slight subterminal black spots at veins 2 and 1.

Hab. BALI (*Doherty*), 1 ♂ type. *Exp.* 36 millim.

1802. *Diacrisia turensis*.

Spilosoma turensis, Ersch. Fedch. Reise, Lep. p. 33, pl. 2. f. 29 (1874); Kirby, Cat. Het. p. 245.

Grey-brown; palpi black; antennæ with the shaft whitish; legs

whitish, banded with black, the femora orange above; abdomen orange above, the base and extremity with whitish hair, dorsal, lateral, and sublateral series of black spots. Fore wing with sub-basal black spot in cell; an antemedial oblique series of spots from costa to median nervure and spot above vein 1; two points or a bar on discocellulars; postmedial points on each side of vein 1 and sometimes one below costa. Hind wing with discoidal spot.

Hab. C. ASIA, Sarmakand, 7000 ft. (*Haberhauer*), 1 ♂, 1 ♀, Kuldja, Kisil-Kum, Tura, 1 ♂, 1 ♀. *Exp.*, ♂ 36, ♀ 42 millim.

1803. *Diacrisia fuscipennis*. (Plate XLVI. fig. 23.)

Spilosoma fuscipenne, Hmps. Moths Ind. ii. p. 11 (1894).

♂. Antennæ with the branches very short; thorax and abdomen dark reddish brown; palpi, frons at sides, and antennæ black; legs streaked with blackish; abdomen with dorsal, lateral, and sublateral series of blackish points. Fore wing fuscous brown; an indistinct curved antemedial line; an obscure discoidal point; the indistinct postmedial line angled at lower angle of cell, then strongly incurved. Hind wing pale greyish brown, with obscure discoidal point.

Hab. N.W. HIMALAYAS, Simla (*Harford*), 1 ♂ type. *Exp.* 48 millim.

1804. *Diacrisia sordida*.

Bombyx sordida, Hübn. Eur. Schmett. ii. f. 151 (1827); Freyer, Neue Beitr. iv. p. 71, pl. 332. ff. 1, 2; id. vii. p. 136, pl. 677; Boisd. Icones, ii. p. 132, pl. 60. ff. 2-4; Dup. Léop. Fr. Suppl. iii. p. 58, pl. 4. ff. 5 *a, b*; Herr.-Schäff. Eur. Schmett. ii. p. 144, ff. 34-36; Mill. Lépidopterologie, vi. p. 17, pl. ix. f. 11; Staud. Cat. p. 59; Kirby, Cat. Het. p. 245.
Bombyx carbonis, Freyer, Neue Beitr. vii. p. 74, pl. 642. f. 4 (1854):

♂. Fuscous brown; hair on legs whitish; femora yellowish above, black bands at extremity of femora, tibiæ, and tarsi; abdomen at extremity and on ventral surface yellowish. Fore wing with obscure antemedial and medial lines angled on median nervure; two discoidal points; the postmedial line excurved between veins 5 and 3, then incurved; a series of dark points on cilia. Hind wing suffused with black; a slight discoidal spot.

♀. Dull whitish brown; palpi, sides of frons, and antennæ tinged with black. Hind wing more or less suffused with black, with discoidal and some subterminal diffused fuscous spots.

Ab. 1. *carbonis* ♂. Fuscous black, without markings.

Hab. NORWAY, 4 ♂, Zeller Coll.; ALPS, 6 ♂, 7 ♀, Zeller and Frey Colls.; PYRENEES. *Exp.* 30 millim.

1805. *Diacrisia luctuosa*.

Bombyx luctuosa, Geyer, Eur. Schmett. ff. 338, 339 (1827); Freyer, Neue Beitr. iii. p. 94, pl. 260; Dup. Léop. Fr. Suppl. p. 7, pl. 51. ff. 1, *a, b*; Herr.-Schäff. Schmett. Eur. ii. p. 144; Staud. Cat. p. 59; Kirby, Cat. Het. p. 245.

Arctia lugubris, Herr.-Schäff. Eur. Schmett. ii. ff. 29, 30 (1844).

♂. Pale grey-brown; palpi, sides of frons, and antennæ blackish;

thorax and terminal part of abdomen dorsally blackish; femora above and ventral surface of abdomen yellowish. Fore wing with black antemedial, medial, postmedial, and subterminal spots on costa; antemedial black points on median nervure and vein 1; a medial point on vein 1; two discoidal points, a postmedial point on vein 1, and subterminal points below veins 7, 6, 3, and 1; a series of points on the cilia. Hind wing with obscure discoidal and some subterminal spots.

Hab. E. EUROPE, Hungary, 3 ♂, 3 ♀, Zeller & Frey Colls., Dalmatia, Greece. *Exp.* 30–34 millim.

1806. *Diacrisia mendica*.

Bombyx mendica, Clerck, Icones, pl. 3. f. 5 (1759); Linn. Faun. Suec. p. 259; Marsh. Trans. Linn. Soc. i. p. 72. pl. i. f. 3; Esp. Schmett. iii. (2) p. 218, pl. 42; Hübn. Eur. Schmett. ff. 148, 149; Godt. Léop. Fr. iv. p. 356, pl. 37. ff. 1, 2; Steph. Ill. Brit. Ent., Haust. ii. p. 78; Staud. Cat. p. 59; Kirby, Cat. Het. p. 225.

Bombyx lubricipeda, Poda, Mus. Græc. p. 87 (1761), nec Linn.

Bombyx murina, Hüfn. Berl. Mag. ii. (4) p. 424 (1766).

Phalæna punctata, Fourcr. Ent. Paris. ii. p. 270 (1785).

Bombyx rustica, Hübn. Beitr. Schmett. ii. (3) p. 64, pl. 2, H (1827); id. Eur. Schmett. f. 150.

♂. Grey-brown; palpi and antennæ blackish; legs orange-yellow striped with black; fore femora clothed with orange hair, the mid and hind femora with whitish hair; abdomen with slight dorsal, lateral, and sublateral series of black points, the anal tuft yellowish, the ventral surface whitish. Fore wing with antemedial black point on median nervure, medial and postmedial points above vein 1, a point at lower angle of cell. Hind wing with discoidal point; three subterminal points towards costa and one below vein 2.

♀. Ground-colour pure white; wings more thinly scaled; fore wing with more or less developed point in upper angle of cell, and often one or two additional points on costa.

Ab. 1. *rustica*. Male white like the female.

Ab. 2. ♀. Wings more or less streaked and blotched with fuscous, the terminal area sometimes suffused with fuscous.

Hab. EUROPE except Arctic region, Germany, Zeller & Frey Colls., Hyeres (*Yerbury*); BITHYNIA; ALTAI. *Exp.*, ♂ 36, ♀ 40 millim.

Larva. Meyr. Brit. Lep. p. 40; Barrett, Lep. Brit. ii. pl. 75. f. 2.

Grey; tubercles reddish; hairs reddish brown; head reddish brown. Food-plants: *Rumex*, *Myosotis*, *Plantago*, etc. 7–9.

1807. *Diacrisia sikkimensis*.

Euchaetes sikkimensis, Moore, Lep. Atk. p. 39, pl. 2. f. 12 (1879); Hmps. Moths Ind. ii. p. 14; Kirby, Cat. Het. p. 237.

♂. Grey-brown; palpi and antennæ blackish; neck with crimson patches; legs blackish; abdomen crimson above except at base and extremity, dorsal, lateral, and sublateral series of black spots. Fore wing with the veins pale; an obscure pale band from origin of vein 2 to inner margin. Hind wing fuscous black.

♀. Greyer; fore wing with obscure dark postmedial band curved from costa to vein 3, then incurved; an obscure subterminal series of streaks in the interspaces.

Hab. SIKHIM; ASSAM, Khâsis, 1 ♀. *Exp.*, ♂ 34, ♀ 40 millim.

1808. *Diacrisia infernalis*.

Thanatarctia infernalis, Butl. A.M.N.H. (4) xx. p. 395 (1877); id. Ill. Het. B. M. iii. p. 7, pl. 42. f. 9; Kirby, Cat. Het. p. 277.

♂. Black-brown; neck with crimson ring; tegulæ edged with crimson behind; pectus and coxæ crimson; abdomen crimson above, with dorsal and lateral series of black spots, the ventral surface pale; wings uniform black-brown.

♀. Ochreous whitish; 3rd joint of palpi and antennæ blackish; tegulæ and sides of neck with some pinkish hair; legs tinged with brown; abdomen crimson above except at base and extremity, and with dorsal, lateral, and sublateral series of black spots. Fore wing with broad fuscous postmedial band bent inwards to costa, attenuate in submedian fold, the veins crossing it pale, and with a pale spot beyond discocellulars. Hind wing with fuscous discoidal spot; a curved postmedial line bent outwards to tornus; a subterminal series of spots.

Ab. 1. Fore wing with postmedial series of points from vein 5 to inner margin and a subterminal point above vein 5; hind wing immaculate.

Hab. JAPAN, Yezo (*Andrews*), 1 ♂, Oiwake (*Pryer*), 3 ♂, 1 ♀, Hakodate (*Whitely*), 3 ♂, 1 ♀ type. *Exp.*, ♂ 38, ♀ 46 millim.

1809. *Diacrisia fulvohirta*.

Alpheia fulvohirta, Wlk. iii. 684 (1855); Butl. Ill. Het. B. M. v. p. 31, pl. 85. f. 8; Hmps. Moths Ind. ii. p. 20; Kirby, Cat. Het. p. 240.

Head and thorax white; palpi, lower part of frons, and antennæ black-brown, the latter white towards tips; tegulæ with black-brown streaks and edged with orange; patagia with black-brown streaks; vertex of thorax black-brown; pectus and legs black-brown, the



Fig. 142.—*Diacrisia fulvohirta*, ♂. 1.
(From Moths Ind. vol. ii.)

femora orange above and fringed with white below; abdomen clothed with rough orange hair above, whitish below, with lateral, sublateral, and ventral series of black spots. Fore wing dark brown; a white mark at base and short streak on base of inner margin; series of irregularly rounded white spots in the interspaces forming subbasal, antemedial, medial,

postmedial, subterminal, and terminal series, the antemedial and medial angled at middle; a spot beyond discocellulars; the postmedial series somewhat excurved beyond cell; the subterminal with the spots between veins 4 and 6 small, sometimes conjoined to the

terminal series. Hind wing white, the inner area sometimes tinged with yellow; basal, antemedial, postmedial, and subterminal blackish spots on costa; a discoidal lunule; subterminal spots on each side of veins 5, 2, and 1, and sometimes two or three on apical half of termen.

Hab. W. CHINA, Chia-kou-ho, 1 ♂, Washan (*Pratt*), 1 ♀; SIKHIM (*Lidderdale*), 7 ♂, type. *Exp.* 55 millim.

1810. *Diacrisia impleta*. (Plate XLVI. fig. 12.)

Hypercompa impleta, Wlk. xxxi. 286 (1864); Hmps. Moths Ind. ii. p. 24; Kirby, Cat. Het. p. 240.

Alphæa abdominalis, Moore, P. Z. S. 1867, p. 682.

Head and thorax white tinged with yellow; palpi, lower part of frons, and antennæ black, the last whitish above towards tips; tegulæ edged with orange and with broad black stripes; shoulders with black patches; patagia with black spots; vertex of thorax with broad black stripe; pectus and legs black; fore coxæ edged with orange, femora with white patches; abdomen orange above, whitish below, with dorsal, lateral, sublateral, and ventral series of black spots, the last two segments black. Fore wing black; a white point at base; subbasal, antemedial, medial, postmedial, and terminal series of yellowish-white spots, the subbasal series with the spot below the cell large and produced, the medial series angled at median nervure and with a spot beyond it beyond the discocellulars; the postmedial series curved, the spots between veins 2 and 5 small, and with two obliquely placed spots beyond it below costa towards apex; the terminal series irregular, with some of the spots not quite on termen; some spots on the cilia. Hind wing orange-yellow; subbasal, medial, and postmedial black spots on costa; a discoidal lunule; more or less developed postmedial and subterminal series of spots on the veins with the medial ones conjoined; a line on termen at apex sometimes more developed, dentate on vein 6 and extending to vein 2.

Ab. 1. Patagia with black stripes; abdomen black with orange segmental bands; fore wing with the spots reduced, the postmedial series only represented by slight points; cilia without spots; hind wing with black streaks on the veins.—*Khásis*.

Hab. SIKHIM (*Lidderdale*), 3 ♂, 2 ♀; ASSAM, *Khásis*, 1 ♂. *Exp.*, ♂ 54, ♀ 64 millim.

1811. *Diacrisia cæsarea*.

Bombyx cæsarea, Goeze, Ent. Beytr. iv. (3) p. 63 (1781); Kirby, Cat. Het. p. 276.

Bombyx luctifera, Esp. Schmett. iii. p. 222, pl. 43. ff. 1-5 (1784); Hübn. Eur. Schmett. f. 147; Godt. Léop. Fr. iv. p. 354, pl. 36. f. 5; Staud. Cat. p. 59.

Bombyx morio, Schrank, Fauna Boica, ii. (1) p. 250 (1801).

Atolmis japonica, Wlk. xxxi. 223 (1864).

Estigmene mærens, Butl. Cist. Ent. iii. p. 114 (1885); Kirby, Cat. Het. p. 277.

Head, thorax, and 1st segment of abdomen fuscous black; the rest of abdomen orange-yellow, with dorsal and lateral series of black spots; wings black-brown, thinly scaled; the terminal half of inner area of hind wing orange-yellow.

Ab. 1. *mœrens*. Hind wing without yellow at tornus.

Hab. EUROPE, France, Nice (*Leach*), Germany, Zeller Coll., Silesia, Frey Coll., 1 ♂, 1 ♀, Switzerland, Italy, Hungary, Dalmatia, Turkey, Russia, Bithynia; ARMENIA; AMURLAND; JAPAN (*Fortune*), 1 ♀ type *japonica*, Nikko (*Pryer*), 1 ♀ type *mœrens*; N.E. CHINA. *Exp.* 42 millim.

SECT. II. (*Aloa*). Antennæ of male biserrate.

- A. Fore wing pure white, the veins streaked with black..... *lineata*.
- B. Fore wing yellowish white to flesh-colour.
 - a. Fore wing with waved ante- and postmedial black lines... *eugraphica*.
 - b. Fore wing with series of points or maculate bands.
 - a¹. Fore wing tinged in part with brown in male, and largely with scarlet in female *turbida*.
 - b¹. Fore wing not tinged with brown or scarlet *subcarnea*.
- C. Fore wing orange-yellow.
 - a. Abdomen crimson.
 - a¹. Fore wing with blackish bands confluent at middle ... *dido*.
 - b¹. Fore wing without black bands.
 - a². Fore wing without black spots below costa *niceta*.
 - b². Fore wing with ante- and postmedial black spots below costa *nebulosa*.
 - b. Abdomen orange; fore wing with scarlet discoidal mark... *subvaria*.
- D. Fore wing pale green *aldaba*.

1812. *Diacrisia lineata*. (Plate XLVI. fig. 3.)

Spilosoma lineata, Wlk. iii. 672 (1855); Kirby, Cat. Het. p. 233.

Aloa simplex, Wlk. iii. 699 (1855).

Senura alba, Wllgrn. Wien. ent. Mon. iv. p. 162 (1860).

Spilartia puella, Druce, A. M. N. H. (7) i. p. 210 (1898).

Pure white; palpi black above, orange below; antennæ black; sides of frons, basal joint of antennæ, back of head, fore coxæ, and femora above orange; fore coxæ with black patches, tibiæ and tarsi black; abdomen orange above, white below, with dorsal and lateral series of small black spots. Fore wing with the veins finely streaked with black except towards base of costal area. Hind wing with the inner area tinged with orange.

Hab. BR. E. AFRICA, Sabaki Valley (*Gregory*), 1 ♂, 1 ♀, Usambara (*Leyros*), 1 ♂; N'Gamiland (*Lugard*), 1 ♂; DELAGOA BAY (*Junod*), 1 ♂; NATAL, Durban (*Gooch*, *Trimen*, *Gueinzus*), type and type *simplex*. *Exp.*, ♂ 36, ♀ 42 millim.

1813. *Diacrisia eugraphica*.

Spilosoma eugraphica, Wlk. xxxi. 292 (1864); Kirby, Cat. Het. p. 241.

Aloa undistriga, Feld. Reis. Nov. pl. 100. f. 21 (1874).

Ochreous; palpi and antennæ black; femora orange above, tibiæ streaked with black, the tarsi black with whitish rings; abdomen with orange bands, and also black bands except on basal segments,

lateral and sublateral series of black spots. Fore wing with black point at base; highly and rather irregularly waved ante- and post-medial black lines, the latter bent outwards from below costa to vein 4 and sometimes with small spot beyond it above vein 6; a discoidal point sometimes present. Hind wing pale yellow, with the inner area orange-yellow in male, uniform orange-yellow in female; a black discoidal spot.

Hab. NATAL, 1 ♀ type, Karkloof (*Marshall*), 1 ♂. *Exp.* 50 millim.

1814. *Diacrisia turbida*.

Spilarctia turbida, Butl. A. M. N. H. (5) x. p. 158 (1882); Pagenst. Zoologica, xii. (1+2) p. 49, pl. i. f. 17; Kirby, Cat. Het. p. 231.

Spilarctia meeki, Druce, A. M. N. H. (7) iii. p. 234 (1899).

♂. Head and thorax ochreous white; palpi, lower part of frons, and antennæ black; tegulæ and patagia with black spots; thorax with black stripe on vertex; legs blackish, the fore coxæ at sides and femora above crimson; abdomen crimson above, ochreous below, with dorsal, lateral, and sublateral series of black spots. Fore wing ochreous whitish suffused with brown except costal, inner, and terminal areas; a subbasal black spot below the cell; an antemedial maculate band angled on median nervure, then oblique; a whitish spot at lower angle of cell; the postmedial black band represented by an oblique black striga in upper angle of cell and three points beyond it, a maculate band from vein 5 to just below vein 2 and a spot above vein 1; two striæ below costa towards apex; an oblique streak from apex to vein 5, some subterminal points from vein 5 to 3, and others further from termen on veins 2 and 1. Hind wing crimson, with black discoidal spot, a subterminal spot above vein 5 and two towards tornus. Underside of fore wing suffused with crimson to beyond middle.

♀. Thorax tinged with scarlet; abdomen with large black spot and lateral and ventral bands on terminal segment; fore wing with the ground-colour scarlet, except for some ochreous white on costa, inner margin, and termen; the veins ochreous; cilia black except towards tornus; both wings with the black markings much more developed; some black marks on apical half of termen and cilia.

Hab. N. GUINEA, Trobriand Is., Kiriwini (*Meek*), 1 ♀; DUKE OF YORK Is., 1 ♂ type. *Exp.*, ♂ 52, ♀ 60 millim.

1815. *Diacrisia subcarnea*.

Spilosoma subcarnea, Wlk. iii. 675 (1855); Kirby, Cat. Het. p. 232.

Aloa bifrons, Wlk. iii. 705 (1855); Kirby, Cat. Het. p. 232.

Aloa leucothorax, Feld. Wien. ent. Mon. vi. p. 36 (1862); Kirby, Cat. Het. p. 232.

Spilosoma erubescens, Moore, A. M. N. H. (4) xx. p. 89 (1877); Kirby, Cat. Het. p. 231.

Spilosoma rybakowi, Alph. Rom. Mém. ix. p. 171, pl. x. f. 9 (1897).

Hyarias oberthuri, Semp. Schmett. Phil. ii. p. 489 (1899).

♂. Head and thorax yellowish white; palpi crimson, black at

tips; lower part of frons and antennæ black; fore coxæ at sides and femora above crimson, tibiæ and tarsi black; abdomen crimson above except at base and extremity, the ventral surface yellowish white, dorsal, lateral, and sublateral series of black spots. Fore wing yellowish white with a fleshy tinge; an antemedial black point above vein 1 and a point in upper angle of cell usually present; an oblique postmedial series of small spots from vein 3 to inner margin, which may be reduced to the point above vein 1; three obliquely placed subapical points sometimes present. Hind wing crimson, with the cilia white, or whitish with the inner area suffused with crimson, or without crimson tinge; a subterminal black spot below vein 2 sometimes present. Underside of fore wing usually more or less suffused with crimson; hind wing with discoidal black point.

♀. Wings yellowish white without crimson tinge, either immaculate or with few spots.

Ab. 1. *robustum*. Patagia with black spots.

Hab. JAPAN, Yokohama (*Pryer*), 3 ♂, 2 ♀, Tokio (*Fenton*), 2 ♀, Loo-choo (*Pryer*), 1 ♂, 1 ♀; COREA, Gensan (*Leech*), 1 ♀; CHINA, Pekin, 1 ♂, 2 ♀, Shanghai (*Fortune*), 2 ♂ type *bifrons*, Chekiang (*Pryer*), 1 ♂ type *erubescens*, Hongkong (*Bowring, J. J. Walker*), 2 ♂, 1 ♀ type. Ichang (*Pratt*), 2 ♂, Che-tou, 1 ♀, Chia-kou-ho (*Pratt*), 2 ♀; FORMOSA (*Hobson*), 2 ♂, 1 ♀; PHILIPPINES, Cebu, 1 ♂, 1 ♀; CELEBES. *Exp.*, ♂ 46, ♀ 58 millim.

*1816. *Diacrisia dido*.

Euprepia dido, M. Wagner, Reis. Algier, iii. p. 209, pl. 9 (1841); Kirby, Cat. Het. p. 257.

Head and thorax black-brown; outer part of tegulæ and patagia yellow; palpi and frons crimson; pectus crimson; legs brown; abdomen crimson, with dorsal and lateral spots, the last two segments and the ventral surface black-brown. Fore wing orange-yellow, with two black-brown spots on base of costa; a fascia on basal half of inner margin; an antemedial point below the cell; antemedial, medial, postmedial, and subterminal irregular bands from costa to median nervure, where they are confluent and continued to inner margin as two bands, the subterminal band emitting a fork to an apical patch and a fascia to middle of termen on which it expands towards the apex. Hind wing deep crimson, a yellow-edged black spot at origin of vein 2; a black discoidal lunule; three subterminal spots towards costa and two towards tornus. Underside of fore wing with crimson costal fascia narrowing to a point at apex; hind wing with three yellow-edged black medial spots towards costa and one below the cell, two postmedial spots below costa, three subterminal spots towards costa, and two towards tornus.

Hab. ALGIERS. *Exp.* 48 millim. This species is unknown to me.

1817. *Diacrisia niceta*.

Bombyx niceta, Stoll, Pap. Exot. iv. pl. 368, C (1782); Kirby, Cat. Het. p. 912.

Spilosoma metarhoda, Wlk. vii. 1695 (1856); Swinh. Cat. Het. Mus. Oxon. p. 184; Kirby, Cat. Het. p. 230.

Arctia eogena, Wlk. xxxi. 280 (1864); Kirby, Cat. Het. p. 232.

Areas hyporhoda, Butl. A. M. N. H. (5) x. p. 159 (1882); Kirby, Cat. Het. p. 254.

Areas semirosea, Butl. A. M. N. H. (5) xix. p. 217 (1887); Kirby, Cat. Het. p. 254.

Head and thorax orange; palpi crimson, the 3rd joint black; frons tinged with crimson; antennæ black; pectus, coxæ, and femora crimson, the rest of legs black; abdomen crimson, with dorsal, lateral, and sublateral series of black spots. Fore wing orange or ochreous, with the interspaces brownish; a black point at base almost always present; an antemedial black spot above vein 1 usually present; a spot in end of cell almost always present; three

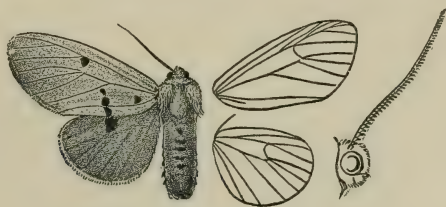


Fig. 143.—*Diacrisia niceta*, ♂. †.

spots between vein 2 and inner margin, sometimes reduced to two or one or absent. Hind wing deep crimson, with black discoidal spot usually large; cilia yellow. Underside of fore wing crimson.

Fore wing often with vein 10 anastomosing with 11.

Hab. PHILIPPINES, Manilla, type † *metarhoda* in Mus. Oxon.; BAT-CHIAN (*Wallace*), type † *eogena* in Mus. Oxon.; AMBOINA; GILOLO; MYSOL; TERNATE; DOREY (*Wallace*); N. GUINEA, Kapaur (*Doherty*), 1 ♂, 1 ♀; LOUISIADES, St. Aignan (*Meek*), 1 ♂, 1 ♀; N. IRELAND (*G. Brown*), 1 ♀; N. BRITAIN, 1 ♂; SOLOMON IS. (*Woodford, Mathew*), 3 ♂ type *semirosea*; DUKE OF YORK IS. (*Mathew*), 2 ♀ type *hyporhoda*. *Exp.*, ♂ 50, ♀ 60 millim.

1818. *Diacrisia nebulosa*.

Rhyparioides nebulosa, Butl. A. M. N. H. (4) xx. p. 396 (1877); id. Ill. Het. B. M. ii. p. 5, pl. 23. f. 2; Kirby, Cat. Het. p. 250.

Rhyparioides simplicior, Butl. Trans. Ent. Soc. 1881, p. 6; Kirby, Cat. Het. p. 250.

Head and thorax fulvous yellow; palpi, frons, and antennæ black-brown, the palpi scarlet below; pectus and legs scarlet, the latter streaked with brown; abdomen scarlet, with dorsal and lateral series of black spots. Fore wing fulvous yellow, the inner

half more or less tinged with black; the costal edge black; traces of a medial line oblique from costa to median nervure, where it is angled, and with two black spots on it towards costa; a black point in upper angle of cell and obscure discoidal spot; traces of a post-medial line excurved beyond cell and with some blackish marks beyond it below costa; some obscure subterminal spots; cilia with series of black spots. Hind wing scarlet, with antemedial maculate black band, not reaching costa or inner margin; a large discoidal spot; some conjoined subterminal spots towards costa and larger spots on veins 2 and 1. Underside of fore wing scarlet, with spot in middle of cell; a medial band angled below the cell; a large discoidal spot and some postmedial spots.

Hab. JAPAN, Yezo (*Pryer*), 3 ♂, 3 ♀, (*Jonas*) 1 ♂ type, Oiwake (*Pryer*), 1 ♂, 1 ♀, Tokio (*Fenton*), 2 ♂, 2 ♀, type *simplicior*, Hakodate (*Andrews*), 1 ♂, Hakone (*Leech*), 1 ♂. *Exp.* 50–60 millim.

1819. *Diacrisia subvaria*.

Diacrisia subvaria, Wlk. iii. 637 (1855); Butl. Ill. Het. B. M. ii. p. 5, pl. 23. f. 3; Kirby, Cat. Het. p. 249.

♂. Fulvous yellow; palpi, frons, and antennæ dark brown, the palpi scarlet below; pectus and legs brown, the coxæ at sides and femora above scarlet; abdomen orange, with dorsal and lateral series of black spots, the ventral surface scarlet. Fore wing with black point in middle of cell; a fuscous spot at lower angle of cell, a scarlet mark on discocellulars, and black points in and beyond upper angle; cilia with fuscous spots. Hind wing scarlet; a medial black point below cell; a large discoidal spot; some conjoined subterminal spots towards costa and spots on veins 2 and 1. Underside of fore wing scarlet, with spot in cell, large discoidal spot, and some postmedial spots.

♀. Fore wing with some antemedial rufous spots below the cell, a medial series angled on median nervure, a postmedial series excurved beyond the cell, and some subterminal spots. Hind wing with more complete medial series of spots.

Hab. N. CHINA (*Fortune*), 2 ♂ type, Hongkong (*Bowring*), 1 ♀; C. & W. CHINA, Tao-pin, Ichang (*Pratt*), 1 ♂, Chang-yang (*Pratt*), 1 ♂, Ningpo, 2 ♂, 2 ♀, Moupin (*Kricheldorf*), 1 ♂, 1 ♀. *Exp.* 48 millim.

*1820. *Diacrisia aldaba*.

Rosema aldaba, Dognin, Ann. Soc. Ent. Belge, xxxviii. p. 242 (1894); id. Léop. Loja, iv. p. 113, pl. 12. f. 12 (1896).

♂. Head whitish; palpi scarlet, with the 3rd joint black; antennæ scarlet; thorax pale green; legs tinged with scarlet, the fore legs streaked with black; abdomen yellowish. Fore wing pale green; a scarlet costal stripe; a black point at lower angle of cell; the postmedial black line dentate, obsolescent, strongly angled inwards in discal fold and to middle of submedian fold, then bent

outwards again; cilia ochreous. Hind wing paler green; cilia ochreous.

Hab. ECUADOR, Loja, 1 ♂ type † in Coll. Dognin. *Exp.* 30 millim.

SECT. III. (*Isia*). Antennæ of male ciliated.

- | | |
|---|--------------------|
| A. Fore wing with series of points..... | <i>isabella</i> . |
| B. Fore wing with two discoidal points | <i>placida</i> . |
| C. Fore wing with dark maculate bands, the veins orange, defined on terminal area by black streaks..... | <i>intricata</i> . |

1821. *Diacrisia isabella*.

Phalæna isabella, Abbot & Smith, Lep. Georg. ii. pl. 66 (1797); Kirby, Cat. Het. p. 244.

Pyrharcia californica, Pack. Proc. Ent. Soc. Philad. iii. p. 121 (1864).

♂. Brownish yellow-buff; femora scarlet above; tibiæ and tarsi blackish above; abdomen with dorsal, lateral, and sublateral series of black spots. Fore wing with traces of antemedial and medial lines acutely angled on median nervure where on the former there is a black point; a black point in lower angle of cell and two beyond



Fig. 144.—*Diacrisia isabella*, ♂. †.

it; traces of a postmedial line excurved between veins 5 and 3; an oblique blackish streak from apex, and a subterminal series of points on each side of veins 5 to 2. Hind wing semihyaline yellowish, the termen slightly tinged with scarlet; a blackish mark on discocellulars and point at lower angle of cell; a subterminal series of obscure black spots.

♀. Hind wing orange-scarlet, the inner area more orange.

Hab. U.S.A., N. York, Trenton Falls, 2 ♂, 3 ♀, Massachusetts, 3 ♂, 1 ♀, Grote & Zeller Colls., California. *Exp.* 50–60 millim.

Egg. Pack. Ann. N. Y. Ac. Sci. viii. p. 76.

White, hemispherical, under a high power seen to be marked with a network of fine irregularly polygonal areas with slightly thickened edges.

Larva. Stage 1. Head dark chestnut; prothoracic shield irregular with a transverse furrow behind middle, four hairs in front and two behind; the 2nd and 3rd somites with transverse series of four flattened, dark brown, conical tubercles, the two inner larger and bearing two hairs; abdominal tubercles with single hair; hairs long, spinulate, some longer anteriorly and posteriorly.

Stage 2. Prothoracic shield crescentic; wrtas concolorous reddish, with 5 to 6 hairs; hair dark brown; body livid purplish.

Stage 3. The hair on somites 1-4 and 7-10 black-brown, on median somites pale brownish with a few black ones; head pale horn-colour.

Stage 4 to adult. Head dark chestnut; somites 1-5 black, the tubercles and hair of somite 5 and the somites 6-8 reddish-brown, somites 9, 10 black; the 2nd somite with a few red hairs; some of the anterior and posterior hairs very long. Food-plants, 'wild cherry' and oak.

1822. *Diacrisia placida*.

Euprepia placida, Friv. Magy. Tud. Társ. Évk. ii. p. 271, pl. vii. f. 5 (1835); Herr.-Schäff. Eur. Schmett. ii. p. 142, ff. 31-32; Mill. Lépidopterologie, ii. p. 4, pl. 8. f. 5; Staud. Cat. p. 59; Kirby, Cat. Het. p. 245.

♂. Head and thorax pale red-brown; antennæ whitish; femora crimson above; abdomen crimson above, with dorsal and lateral series of black spots, the ventral surface brown. Fore wing pale red-brown; two black discoidal points. Hind wing crimson, the margins and cilia pale red-brown; two black discoidal spots and subterminal spots below apex and on veins 2 and 1.

Hab. ASIA MINOR; TURKESTAN, 1 ♂, Zeller Coll., Kuldja, (*Lansdell*) 1 ♂. *Exp.* 40 millim.

1823. *Diacrisia intricata*. (Plate XLVI. fig. 9.)

Isia intricata, Wlk. vii. 1698 (1856); Kirby, Cat. Het. p. 233.

♂. Head and thorax white; palpi, frons, and antennæ black, the frons with orange bar above; tegulæ with black points; shoulders with orange streaks; tegulæ edged with orange and streaked with fuscous at extremity; legs black banded with orange; abdomen orange, with dorsal and lateral series of black points, the ventral surface white, the segments fringed with orange and with sublateral series of fuscous points. Fore wing flesh-white; a subbasal series of short fuscous streaks with the veins between them orange, the streaks longer on costa; an antemedial series of points slightly excurved below costa; a medial band formed of quadrate fuscous spots with the veins between them orange, angled at median nervure; an orange discoidal lunule with black spots on its edges; a post-medial series of points excurved from vein 7 to 4; the veins of terminal area streaked with orange, with small fuscous spots between them towards costa beyond the postmedial line and wedge-shaped spots towards inner margin; the veins with black streaks on each side of them at termen, those at veins 6, 7 longer, and at veins 3, 4 reaching to near the postmedial line. Hind wing with the costal half yellowish white, the inner half, veins, and cilia orange; terminal black points on each side of veins 3, 4, and a discoidal point.

♀. Hind wing orange, with fuscous discoidal lunule; a spot, below middle of cell; a postmedial series of fuscous streaks on each side of the veins with no streaks between veins 3, 4, and the streaks near veins 5, 2, and 1 larger.

Hab. BRAZIL, Rio Janeiro, 2 ♀, São Paulo (*Jones*), 1 ♂, 2 ♀. *Exp.*, ♂ 38, ♀ 48 millim. Type in Mus. Oxon.

Subsp. 1. *alcumena*, Berg, An. Soc. Argent. xiii. p. 213 (1832); Kirby, Cat. Het. p. 229.

♂. Thorax and hind wing entirely white.

Hab. ARGENTINA, type † ♂ in Mus. Buenos Ayres.

Genus ACANTHARCTIA.

Acantharctia, Auriv. Ent. Tidskr. 1899, p. 241 Type.
nivea.

Proboscis aborted, minute; palpi porrect to just beyond frons, which is tufted with hair; antennæ of male bipectinate; vertex of head with oblique flattened corneous plate depressed at middle; fore tibiæ short, with long curved claw at extremity on inner side and short claw on outer; hind tibiæ with the spurs absent. Fore wing rather narrow, with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 from just above angle; 6, 7 shortly stalked; 8 from before middle of cell.

A. Fore wing with broad black fasciæ in the interspaces *metaleuca*.

B. Fore wing without broad fasciæ in the interspaces.

a. Hind wing yellow *vittata*.

b. Hind wing white.

a¹. Fore wing with the cilia orange *flavicosta*.

b¹. Fore wing with the cilia white *nivea*.

1824. *Acantharctia metaleuca*, n. sp. (Plate XLVI. fig. 18.)

Yellowish white; palpi, sides of frons, and branches of antennæ blackish; vertex of head orange; a dorsal black stripe on tegulæ and vertex of thorax; legs fuscous, the femora orange above; abdomen orange above except at base, with dorsal series of black bands and lateral series of points. Fore wing with black fasciæ from base to termen through the cell and in submedian interspace, narrowing towards base and termen; streaks in the terminal interspaces above veins 2, 3, 4, 6, 7, those above veins 4 and 7 shorter. Hind wing whiter, sometimes with discoidal point.

Hab. BR. E. AFRICA, Athi-ya-Mawe (*Betton*), 9 ♂ type, Nairobi, 2 ♂, Kiu (*Crawshay*), 1 ♂ 1 ♀. *Exp.* 36–40 millim.

1825. *Acantharctia vittata*. (Plate XLVI. fig. 6.)

Acantharctia vittata, Auriv. Ent. Tidskr. 1899, p. 242.

♂. Head and thorax dull white with some orange between antennæ, which are black, and edging the patagia; legs tinged with fuscous, the femora orange above; abdomen orange, with dorsal series of black spots and two lateral series of points, the ventral surface pale. Fore wing yellowish white, with more or less developed blackish streaks in discal and submedian folds; the costa towards apex, the cilia, and inner margin yellow. Hind wing yellow.

Hab. BECHUANALAND; NATAL, Weenen, 1 ♂. *Exp.* 40 millim.

1826. *Acantharctia flavicosta*. (Plate XLVI. fig. 21.)*Amsacta flavicosta*, Hmps. Ann. S. Afr. Mus. ii. p. 53 (1900).

♂. Head orange; palpi black above; antennæ with the branches black; thorax white, the tegulæ and patagia edged with yellow; tibiæ and tarsi fuscous above; abdomen orange, with dorsal black bands and lateral series of points. Fore wing white, the costal area and cilia orange; the inner margin yellowish. Hind wing white; the cilia orange at apex.

Hab. MASHONALAND, Salisbury (*Marshall*), 5 ♂ type. *Exp.* 38 millim.

*1827. *Acantharctia nivea*.*Acantharctia nivea*, Auriv. Ent. Tidskr. 1899, p. 242.

♂. Pure white; palpi yellowish, black above; frons orange; vertex of head and tegulæ with some orange; antennæ with the branches blackish; pectus and legs yellow and brown; abdomen

Fig. 145.—*Acantharctia nivea*, ♂. †.

orange dorsally banded with black and with black lateral stripes; wings thinly scaled; fore wing with the costa and inner margin yellowish.

Hab. CONGO, type † ♂ in Mus. Stockholm. *Exp.* 36 millim.

Genus **AMSACTA**.

	Type.
<i>Amsacta</i> , Wlk. iv. 804 (1855)	<i>marginalis</i> .

Proboscis aborted, minute; palpi porrect to just beyond the frons and fringed below with long hair; frons usually clothed with rough hair; fore tibiæ with a more or less developed curved claw on inner side and short claw on outer; hind tibiæ with one pair of spurs.* Fore wing with vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from just above angle; 6, 7 from upper angle or shortly stalked; 8 from middle of cell.

SECT. I. Antennæ of male bipectinate.

- | | |
|---|-----------------------|
| A. Fore wing red-brown, with the margins orange | <i>marginalis</i> . |
| B. Fore wing with the ground-colour white tinged with yellow or pink. | |
| a. Fore wing with broad fuscous fasciæ in the interspaces | <i>melanogastra</i> . |

* In *A. gangara*, *cardinalis*, *lactinea*, and *negrita* the medial spurs are usually present, though very minute.

- b.* Fore wing without broad fasciæ in interspaces.
*a*¹. Head orange on vertex.
*a*². Fore wing with the veins streaked with black... *grammiphlebia*.
*b*². Fore wing with the veins not streaked with black *bivittata*.
*b*¹. Head white on vertex.
*a*². Abdomen orange above.
*a*³. Fore wing with well-defined crimson fascia on costa *insolata*.
*b*³. Fore wing without crimson fascia on costa... *lineola* ab.
*b*². Abdomen crimson above *lineola*.

1828. *Amsacta marginalis*.

Amsacta marginalis, Wlk. iv. 805 (1855); Kirby, Cat. Het. p. 466.

♂. Head and thorax red-brown, the head tinged with orange; antennæ with the branches blackish; abdomen orange, with dorsal



Fig. 146.—*Amsacta marginalis*, ♂. 1.

black bands on each segment. Fore wing red-brown, the costa and inner margin narrowly orange. Hind wing fuscous brown, the cilia orange on tornal half.

Hab. SIERRA LEONE, 2 ♂ type. *Exp.* 30 millim.

1829. *Amsacta melanogastra*.

Cyenia melanogastra, Holl. Don. Smith's Travels p. 410, pl. — f. 10 (1897).

Head and thorax grey; tegulæ and patagia edged with orange; femora orange above; abdomen orange, with dorsal black patch from 2nd segment to extremity, lateral and sublateral series of black points, the area between them grey, the ventral surface ochreous. Fore wing brownish grey, the costal area yellow, the veins streaked with yellow; the inner area yellow with a grey-brown fascia; the inner margin, points on discocellulars, and the cilia orange. Hind wing orange-yellow.

Hab. SOMALILAND, type † ♀ in Coll. Holland; BR. E. AFRICA, Athi-ya-Mawe (*Belton*), 1 ♂, Kikuyu (*Crawshay*), 1 ♂. *Exp.* 50 millim.

1830. *Amsacta grammiphlebia*, n. sp. (Plate XLVI. fig. 4.)

Head orange; palpi at sides and antennæ black; tegulæ yellow edged with orange; patagia and thorax pale yellow; sides of pectus and femora above orange; mid tibiæ and the tarsi black; abdomen orange, with black dorsal streak and segmental lines except on

basal and terminal segments; the ventral surface pale yellow with subventral black lines. Fore wing very pale yellow, the veins, cell, and submedian fold with fine black streaks. Hind wing pale yellow, the inner area tinged with orange.

Hab. MASHONALAND, Salisbury (*Marshall*), 3 ♂ type. *Exp.* 50 millim.

1831. *Amsacta bivittata*.

Aloa bivittata, Butl. P. Z. S. 1898, p. 417, pl. xxxii. f. 3.

♂. Head orange; palpi and sides of frons fuscous; antennæ white above, black below; thorax whitish, tinged with ochreous in front, a dorsal black stripe; legs fuscous, the femora orange above; abdomen orange above, the hair at base white; the ventral surface white, a dorsal series of black bars and lateral and sublateral series of spots. Fore wing white, the costal area tinged with ochreous; a fuscous streak in discal fold extending just into end of cell; a streak above terminal part of vein 6. Hind wing pure white. Underside of fore wing with the costal area orange.

Hab. BR. E. AFRICA, M'bana (*Betton*), 1 ♂ type. *Exp.* 32 millim.

1832. *Amsacta insolata*.

Aloa insolata, Swinh. P. Z. S. 1889, p. 404, pl. 43. f. 15; Hmps. Moths Ind. ii. p. 28; Kirby, Cat. Het. p. 223.

Pure white; palpi scarlet at sides, the 3rd joint black; antennæ black, the basal joint scarlet; patagia with black points; fore coxæ and femora above scarlet; tibiæ and tarsi black and white; abdomen orange, with dorsal, lateral, and sublateral series of black spots, the anal tuft and ventral surface white. Fore wing with scarlet costal fascia not reaching apex; a black point at lower angle of cell, and sometimes ante- and postmedial points above vein 1 and subterminal point above vein 5. Hind wing with black discoidal spot.

Ab. 1. Fore wing with black antemedial point below median nervure and brownish streak below its terminal half.

Hab. BURMA, Thyetmyo (*Noble*), 1 ♂ type, Myingyan (*Watson*), 2 ♂, 2 ♀. *Exp.*, ♂ 34, ♀ 40 millim.

1833. *Amsacta lineola*.

Bombyx lineola, Fabr. Ent. Syst. iii. (1) p. 465 (1793).

Cretonotus emittens, Wlk. iii. 638 (1855); Hmps. Moths Ind. ii. p. 28; Moore, Lep. Ceyl. ii. p. 74, pl. 108. f. 3, 3a; Kirby, Cat. Het. p. 242.

Spilosoma punctistriga, Wlk. Cat. iii. p. 676 (1855); Butl. Ill. Het. B. M. v. p. 30, pl. 85. f. 6; Kirby, Cat. Het. p. 242.

Aloa candidula, Wlk. iii. 704 (1855); Kirby, Cat. Het. p. 242.

Aloa diminuta, Wlk. iii. 705 (1855); Kirby, Cat. Het. p. 242.

Spilosoma strigata, Wlk. Char. Lep. Het. p. 10 (1869).

Cretonotus rubricosta, Moore, P. Z. S. 1872, p. 573; Kirby, Cat. Het. p. 242.

Aloa flora, Swinh. P. Z. S. 1885, p. 296, pl. 20. f. 5; Kirby, Cat. Het. p. 242.

Head and thorax white tinged with pink; antennæ with the

branches blackish, the shaft tinged with pink; fore coxæ and femora above crimson, tibiæ striped with fuscous; abdomen crimson above, whitish below, with dorsal series of black spots and lateral and some sublateral points. Fore wing white tinged with pink; a narrow crimson fascia on costa; a black fascia below the cell from before middle to extremity, continued below vein 4 to its middle; a short subterminal streak above vein 5. Hind wing nearly pure white, sometimes with black discoidal spot, and subterminal spot above vein 5.

Ab. 1. *flora*. Fore wing with the fascia reduced to very short streaks or points below end of cell, the streak above vein 5 absent; antemedial points above vein 1 and below cell sometimes present.

Ab. 2. Ground-colour of fore wing nearly pure white.—N. India.

(a) *candidula*. Fore wing with the fascia below the cell as in typical form.

(b) *punctistriga*. Fore wing with the fascia reduced as in *flora*.

(c) *rubricosta*. Fore wing with one point at lower angle of cell only.

Ab. 3. All the red replaced by orange; fore wing tinged with ochreous.

(a) Fore wing with broad fascia below the cell and streaks above veins 3, 4, 5.—Assam.

(b) Fore wing with point at lower angle of cell only.—Kashmir.

Hab. KASHMIR, 2 ♂; N.W. HIMALAYAS, Simla (*Harford*), 3 ♂; PUNJAB, type ♀ *strigata*, Manipur, 1 ♂, 1 ♀, type *rubricosta*, Kulu (*G. Young*), 2 ♂; NEPAL, 2 ♂ type *candidula*; ASSAM, 2 ♀; N. INDIA, 1 ♀ type *punctistriga*; CALCUTTA, 1 ♀; KUTCH, 1 ♂, 1 ♀; BOMBAY, 2 ♂, 2 ♀ type *flora*; INDIA (*Mrs. Hamilton*), type *diminuta*; JUBBULPORE, 4 ♂, 2 ♀; BELGAUM, 1 ♂; MYSORE, Shimoga (*Watson*), 1 ♂; COIMBATORE (*Walhouse*), 1 ♂, 1 ♀; TRAVANCORE (*Fellows-Wilson*), 1 ♀; CEYLON (*Nietner, Yerbury*), 4 ♂, 3 ♀, type *emittens*. *Exp.*, ♂ 30, ♀ 38 millim.

SECT. II. Antennæ of male serrate.

A. Tegulæ edged with scarlet or abnormally with orange.

a. Fore wing with postmedial series of black spots ... *costalis*.

b. Fore wing without postmedial series of black spots.

a¹. Fore wing with broad black-brown streaks on the veins. *gangara*.

b¹. Fore wing without streaks on the veins.

a². Abdomen scarlet.

a³. Hind wing with the termen yellow *flavimargo*.

b³. Hind wing with the termen not yellow.

a⁴. Abdomen with dorsal black bands *collaris*.

b⁴. Abdomen with dorsal black spots.

a⁵. Fore wing with black spot at upper angle of cell *cardinalis*.

b⁵. Fore wing without black spot at upper angle of cell *marginata* ab.

- b². Abdomen orange.
 a³. Fore wing with the ground-colour white... *lactinea*.
 b³. Fore wing with the ground-colour black ... *negrita*.
 B. Tegulæ not edged with scarlet or orange.
 a. Fore wing with the ground-colour white.
 a¹. Fore wing with the veins not defined with brown.
 a². Patagia with black points *moorei*.
 b². Patagia without black points..... *marginata*.
 b¹. Fore wing with the veins broadly defined by olive-brown *moloneyi*.
 b. Fore wing with the ground-colour pale brown..... *albistriga*.

1834. *Amsacta costalis*.

Aloa costalis, Wlk. xxxi. 301 (1864) ; Kirby, Cat. Het. p. 224.

Aloa corsima, Swinh. Cat. Het. Mus. Oxon. p. 171, pl. iv. f. 1 (1892).

♀. Pure white ; palpi crimson at base, black at tips ; antennæ black ; back of head, edges of tegulæ, stripes on shoulders, fore coxæ, and femora above scarlet ; patagia with black spots ; legs striped with black ; abdomen scarlet, the anal tuft and ventral surface white ; dorsal, lateral, and sublateral series of black spots. Fore wing with scarlet costal fascia ; a small black spot at base of cell ; a curved series of three antemedial spots ; spots at the two angles of cell ; a postmedial series excurved below costa, then oblique ; subterminal spots on costa and veins 5 and 2 and a terminal series. Hind wing with discoidal lunule ; a terminal series of spots, those at veins 5, 2 and towards tornus larger and quadrate or elongate, forming an interrupted band.

Ab. 1. *corsima*. Wings strongly tinged with ochreous.

Hab. N. AUSTRALIA (*Elsey*), 3 ♀ type, Port Essington, type ♂ *corsima* in Mus. Oxon. *Exp.* 50 millim.

1835. *Amsacta gangara*.

Aloa gangara, Swinh. Cat. Het. Mus. Oxon. p. 171, pl. iv. f. 2 (1892).

♂. White ; palpi black, scarlet at base ; antennæ black, the basal joint, back of head, and edges of tegulæ scarlet ; patagia and vertex of thorax striped with black ; legs striped with black, the fore coxæ and femora above scarlet ; abdomen scarlet above, white below, a dorsal series of short black bands, and lateral and sublateral series of black spots. Fore wing with the costal edge black, with scarlet fascia below it ; the veins broadly striped with black-brown, two conjoined discoidal spots ; a fine terminal line. Hind wing with discoidal black spot ; a fascia in submedian fold not reaching base ; a terminal band with slightly waved inner edge and slight white spots below apex and in submedian fold ; cilia white.

Ab. 1. All the scarlet markings replaced by orange.—W. Australia.

Hab. N. AUSTRALIA, King George's Sound, type † in Mus. Oxon. ; W. AUSTRALIA, 1 ♂. *Exp.* 50 millim.

*1836. *Amsacta flavimargo*. (Plate XLVI. fig. 14.)*Cretonotus flavimargo*, Hmps. Moths Ind. ii. p. 27 (1894).

♂. Pure white; palpi scarlet at base, black at tips; antennæ black, white towards tips, the basal joint, back of head, edges of tegulæ, stripes on shoulders, fore coxæ, femora and tibiæ above scarlet; legs striped with black, tarsi ringed with black; patagia with black points; abdomen scarlet, the ventral surface white, dorsal, lateral, and sublateral series of black points. Fore wing with scarlet costal fascia; a black point at upper angle of cell. Hind wing with terminal yellow band and subterminal black spots above vein 5 and below vein 2.

Hab. BURMA, Bhámo (*Fea*), type ♂ in Mus. Genova. *Exp.* 50 millim.

1837. *Amsacta cardinalis*.

Areas cardinalis, Butl. Cist. Ent. ii. p. 22 (1875); Semp. Schmett. Phil. ii. pl. lvii. ff. 3, 4 & pl. P. ff. 6, 7; Kirby, Cat. Het. p. 224.

♀. Pure white; palpi black, the 1st and 2nd joints crimson below; antennæ black; back of head and edge of tegulæ crimson; shoulders striped with crimson; patagia with black spots; fore coxæ crimson with black patches; femora crimson above; tibiæ and tarsi striped with black; abdomen scarlet above, with dorsal, lateral, and sublateral series of black spots. Fore wing with crimson costal fascia; small black spots at angles of cell. Hind wing with black discoidal spot; a quadrate patch on termen between veins 4 and 6, a small spot below vein 4, and a patch from vein 3 to inner margin.

Ab. 1. Fore wing with ante- and postmedial black points above vein 1; hind wing with the patches on termen reduced to points below vein 2 and on each side of vein 5.—Celebes.

Hab. PHILIPPINES, 1 ♀ type; CELEBES, 1 ♀. *Exp.* 70–76 millim.

Larva. Black-brown; head red-brown, with black frontal stripe; stigmata white; legs red-brown.

1838. *Amsacta collaris*.

Aloa collaris, Hmps. Ill. Het. B. M. viii. p. 54, pl. 140. f. 18 (1891); id. Moths Ind. ii. p. 27; Kirby, Cat. Het. p. 223.

Pure white; palpi scarlet, the 3rd joint black; antennæ black, the basal joint and back of head scarlet; edges of tegulæ, stripes on shoulders, fore coxæ, femora and tibiæ above scarlet; fore coxæ with black spots, tibiæ striped with black, the tarsi ringed with black; abdomen scarlet, with dorsal black bands and triangular patch on terminal segment, the ventral surface with lateral black fasciæ, sublateral series of spots and bands, and patch on terminal segments. Fore wing with black point at base; points at the

two angles of cell, and ante- and postmedial points above vein 1. Hind wing with discoidal lunule and four, usually large, spots just before termen.

Hab. BOMBAY, 1 ♂; NILGIRIS, W. slopes (*Hampson*), 5 ♂, type. *Exp.* 46–50 millim.

1839. *Amsacta lactinea*.

Bombyx lactinea, Cram. Pap. Exot. ii. pl. 133, D (1777); Hmps. Moths Ind. ii. p. 27; Kirby, Cat. Het. p. 223.

Bombyx sanguinolenta, Fabr. Ent. Syst. iii. (1) p. 473 (1793); Moore, Lep. Ceyl. ii. p. 74, pl. 108. ff. 6, 6a; Kirby, Cat. Het. p. 223.

Aloa marginata, Moore, P. Z. S. 1883, p. 15, pl. 5. f. 1.

Rhodogastria frederici, Kirby, Cat. Het. p. 223 (1892).

Pure white; palpi crimson, black at tips; antennæ black; vertex of head, neck, edges of tegulæ, stripes on shoulders, fore coxæ, and



Fig. 147.—*Amsacta lactinea*, ♂. 1. (From Moths Ind. vol. ii.)

femora above crimson; patagia usually with black points; fore coxæ with black patches, fore and mid tibiæ striped with black, the tarsi banded with black; abdomen orange above except basal segment and anal tuft, dorsal black bands, lateral stripes, and sublateral series of points. Fore wing with crimson costal fascia; black points usually present at angles of cell, and often ante- and postmedial points above vein 1. Hind wing usually with discoidal black lunule and four subterminal spots, any of which may be absent.

Ab. 1. *marginata*. Hind wing with complete terminal black band.—Nepal.

Hab. JAPAN, Tokio (*Jonas*, *Fenton*), 2 ♀, Oiwake (*Pryer*), 1 ♂, Yokohama (*Manley*), 1 ♀; W. CHINA, Chia-ting-fu, 1 ♀, Ichang (*Pratt*), 1 ♂; S. CHINA, Swatow, 1 ♀; FORMOSA, 2 ♂; KASHMIR, Scinde Valley (*Leech*), 1 ♂, 1 ♀; PUNJAB, Sultanpur (*G. Young*), 1 ♀, Jubbulpur (*Miss F. Butler*), 1 ♂, 1 ♀; NEPAL (*Ramsay*), 1 ♀ type *marginata*; CALCUTTA, Barrackpur, 1 ♀; BOMBAY (*Swinhoe*), 1 ♀; NILGIRIS, (*Hampson*), 1 ♂; SHEVAROYS (*Morris*), 1 ♀; CEYLON (*Templeton*), 1 ♀; BURMA, Moulmein (*Clerk*), 2 ♀, Rangoon (*Bingham*), 1 ♂; JAVA (*Horsfield*, *Kirkpatrick*), 5 ♂, 6 ♀. *Exp.*, ♂ 56, ♀ 66 millim.

Larva. Moore, Lep. E. I. C. pl. 16. f. 12.

Black, with lateral tufts of red-brown hair; a lateral series of scarlet spots; dorsal, subdorsal, and subspiracular series of black spots; 3rd, 4th, and 5th somites with sublateral spots, terminal somite with two spots only. Food-plant, *Menispermum glabrum*.

1840. *Amsacta negrita*. (Plate XLVI. fig. 13.)

Cretonotos negritus, Hmps. Moths Ind. ii. p. 28 (1894); Swinh. A. M. N. H. (6) xiv. p. 436.

Head fuscous-black and white; palpi scarlet below; back of head, edges of tegulæ, stripes on shoulders, and stripes on fore and mid femora above scarlet; tegulæ with black band, patagia with black spots; legs black and white; abdomen orange above, white below, with broad black bands and lateral fasciæ, the anal tuft white. Fore wing fuscous black, with white fasciæ in terminal half of cell, submedian fold, and base of inner margin; the costal edge scarlet towards apex; cilia white. Hind wing fuscous black, with diffused white streaks in cell and basal half of submedian fold; cilia white.

Hab. ASSAM, Khâsis, 1 ♂ 1 ♀, type. *Exp.* 56 millim.

1841. *Amsacta moorei*.

Areas moorei, Butl. Cist. Ent. ii. p. 23 (1876); id. Ill. Het. B. M. v. p. 28, pl. 85. f. 2; Hmps. Moths Ind. ii. p. 27; Kirby, Cat. Het. p. 224.

Aloa sara, Swinh. P. Z. S. 1889, p. 404; Kirby, Cat. Het. p. 223.

Pure white; palpi scarlet at sides, black at tips; antennæ black, the basal joint and back of head scarlet; streaks on shoulders, fore coxæ at sides, and femora above scarlet, the fore coxæ with black spots, the tibiæ streaked and the tarsi ringed with black; abdomen scarlet, with short dorsal black bands and lateral series of spots, the ventral surface white. Fore wing with scarlet costal fascia; black points at angles of cell. Hind wing with discoidal black lunule and three almost terminal spots.

Ab. 1. *sara*. Patagia with black points; abdomen with sublateral black spots; fore wing with ante- and postmedial black points above vein 1.—Karâchi.

Ab. 2. Tegulæ and thorax suffused with brown; abdomen with the dorsal bands joining lateral fasciæ; fore wing with diffused brownish streaks below median nervure and above vein 1, and interrupted postmedial line excurved from costa to vein 3, then incurved; a subterminal spot above vein 5.

Hab. N.W. HIMALAYAS, Almorah (*Boys*), 1 ♂ type; SIND, Karâchi (*Swinhoe, Watson*), 2 ♂, 2 ♀, type *sara*; TRICHINOPOLY (*Fellows-Wilson*), 1 ♀. *Exp.*, ♂ 38-40, ♀ 44-54 millim.

Larva. Food-plant, groundnuts.

1842. *Amsacta marginata*.

Phalœna marginata, Don. Ins. N. Holl. pl. 34. f. 2 (1805); Kirby, Cat. Het. p. 224.

Areas roseicostis, Butl. Cist. Ent. ii. p. 23 (1875); Kirby, Cat. Het. p. 224.

Areas punctipennis, Butl. A. M. N. H. (4) xviii. p. 126 (1876); Kirby, Cat. Het. p. 224.

Silvery white; palpi scarlet, black at tips; antennæ black; back of head with scarlet patches; fore coxæ and femora above scarlet; tibiæ striped with black, tarsi banded with black; abdomen scarlet above except 1st segment and anal tuft, dorsal, lateral, and sub-lateral series of black spots. Hind wing with scarlet costal fascia with black streak on costa; a black stripe on median nervure and base of veins 2, 3, 4; a slight streak above medial part of vein 1, and short subterminal streaks on veins 1, 2, 5. Hind wing usually with discoidal spot and usually three or four subterminal spots.

Ab. 1. *punctipennis*. Tegulæ edged with scarlet; fore wing with the black streak on median nervure reduced to a slight streak at its extremity.

Ab. 2. *roseicostis*. Fore wing without the black costal streak; hind wing with some scarlet suffusion on costal area towards apex.

Ab. 3. Wings without black markings.

Ab. 4. The scarlet areas replaced by orange.

Hab. N. GUINEA (*MacFarlane*), 2 ♂, 1 ♀, type *punctipennis*; FERGUSSON IS. (*Meek*), 1 ♂; LOUISIADES, St. Aignan (*Meek*), 1 ♂; N. AUSTRALIA, Port Darwin, 1 ♂; W. AUSTRALIA, Sherlock R. (*Clements*), 2 ♂, 2 ♀; QUEENSLAND, Rockingham Bay (*McGillivray*), 1 ♂ type *roseicostis*; N. S. WALES, Paramatta (*Raynor*), 5 ♂, 3 ♀; TASMANIA, 1 ♂. *Exp.*, ♂ 48, ♀ 46–60 millim.

*1843. *Amsacta moloneyi*.

Areas moloneyi, Druce, P. Z. S. 1887, p. 670, pl. 55. f. 4; Kirby, Cat. Het. p. 253.

♂. Head and thorax white tinged with pale olive-brown; palpi at tips, antennæ, and spots on patagia black; a slight crimson ring round neck; fore coxæ with black spots; femora crimson in front; abdomen crimson above, the 1st and terminal segments and ventral surface whitish; dorsal, lateral, and sublateral series of black points. Fore wing whitish; the costa streaked with crimson; the veins broadly outlined with olive-brown; black points at upper and lower angles of cell, and obscure ante- and postmedial points above vein 1. Hind wing white, with black discoidal spot and four spots on termen.

Hab. GAMBIA (*Moloney*), type ♂ in Coll. Druce. *Exp.* 50 millim.

1844. *Amsacta albistriga*. (Plate XLVI. fig. 19.)

Aloa albistriga, Wlk. xxxi. 303 (1864); Hmps. Moths Ind. ii. p. 28; Indian Museum Notes, v. p. 50, pl. 6. ff. 3, 4 (larva); Kirby, Cat. Het. pp. 224, 243.

♂. Head and thorax white; palpi yellow, the 3rd joint black;

antennæ black; back of head, stripes on shoulders, fore coxæ and femora above yellow; patagia with black points, legs striped with black, the tarsi ringed with black; abdomen orange-yellow, the ventral surface white, a dorsal series of short black bands, and lateral and sublateral series of black spots. Fore wing pale brown; the costa yellow; a subcostal fascia, the veins, a stripe in and beyond end of cell, and another in medial part of submedian fold white; two discoidal black points; traces of a curved antemedial line; a more distinct postmedial line excurved from costa to vein 4, then incurved to below origin of vein 2. Hind wing pure white, with black discoidal lunule and four subterminal spots sometimes more or less conjoined.

Hab. GANJAM; MADRAS, 1 ♂; COIMBATORE (*Walhouse*), 1 ♂ type. *Eap.* 44 millim.

Larva. Food-plant, groundnuts.

Genus CREATONOTUS.

	Type.
<i>Cretonotos</i> , Hübn. Verz. p. 169 (1827)	<i>gangis.</i>
<i>Amphissa</i> , Wlk. iii. 684 (1855)	<i>transiens.</i>
<i>Phissama</i> , Moore, Lep. E. I. C. p. 362 (1859)	<i>transiens.</i>

Proboscis aborted; palpi porrect, not reaching beyond the frons; head and thorax smoothly scaled; hind tibiæ with the medial spurs absent. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from just above angle; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. Antennæ of male bipectinate.

A. Abdomen crimson above	<i>arabica.</i>
B. Abdomen orange above	<i>marginalis.</i>

1845. *Cretonotus arabica*.

Spilosoma arabicum, Hmps. P. Z. S. 1896, p. 258, pl. x. f. 25.



Fig. 148.—*Cretonotus arabica*, ♂. 1.

Brownish grey; palpi black above, tinged with crimson below; antennæ black, the basal joint crimson; neck crimson; patagia with black spots; legs banded with black; fore coxæ and femora above tinged with crimson; abdomen crimson above, with dorsal, lateral, and sublateral series of black spots. Fore wing sometimes with black costal fascia; some black points at base; an antemedial series of four spots from costa to below cell and two nearer the base on each side of vein 1; a discoidal spot and three points at lower angle of cell; a postmedial series of spots curved from costa

to vein 3, then oblique and with two points beyond it towards apex, a short streak above vein 5 and point below it and points on each side of vein 2. Hind wing with discoidal spot, and sometimes subterminal spots above vein 5 and below 2.

One specimen has veins 4, 5 of both wings stalked.

Hab. ADEN (*Yerbury, Nurse*), 5 ♂, 2 ♀, type. *Exp.*, ♂ 34, ♀ 44 millim.

1846. *Cretonotus marginalis*. (Plate XLVI. fig. 10.)

Aloa marginalis, Wlk. iii. 701 (1855); Kirby, Cat. Het. p. 238.

Spilosoma ramivitta, Wlk. Proc. N. H. Soc. Glasg. i. p. 336 (1869); Kirby, Cat. Het. p. 910.

♂. Yellowish white; palpi and antennæ black, the basal joint of latter, neck, fringe of tegulæ, fore coxæ and femora above orange; tegulæ, shoulders, and patagia with black spots, legs banded with black; abdomen orange above, white below, dorsal, lateral, and sublateral series of small black spots. Fore wing with broad dark brown fascia in and below cell from near base to the subterminal band, connected with costa by three bands on basal area, one at end of cell forking towards the fascia and one towards apex, and with inner margin by four bands before the subterminal band, the first or first two not reaching inner margin; the subterminal band enclosing some white spots between veins 2 and 5, attenuate below vein 2, and connected with termen by six streaks on the veins. Hind wing with dark brown discoidal lunule and three subterminal spots.

♀. Fore wing with the brown fascia broader.

Hab. SIERRA LEONE, 1 ♀ type; NIGERIA, Onitsha; CONGO, 1 ♂ type *ramivitta*. *Exp.*, ♂ 44, ♀ 50 millim.

SECT. II. Antennæ of male serrate and fasciculate.

*1847. *Cretonotus vittata*.

Spilarectia vittata, Druce, A. M. N. H. (7) i. p. 211 (1898).



Fig. 149.—*Cretonotus vittata*, ♂. ¼.

♂. Head, thorax, and abdomen brownish ochreous; palpi black, crimson at base; sides of frons black; legs crimson; abdomen dorsally tinged with crimson towards extremity. Fore wing ochreous white; a brown patch on costa before middle extending

to median nervure, and sending a spur inwards along costa; a rather diamond-shaped patch above end of cell extending to angle of discocellulars; an oblique diffused line from lower angle of cell to inner margin before middle; a triangular patch on costa before apex; a diffused postmedial line from discal fold slightly curved to vein 3, then expanding into a triangular patch; a diffused subterminal line from costa to vein 3, expanding into a spot on vein 5. Hind wing yellowish white, with brown discoidal spot; the inner area tinged with pink. Underside of fore wing with the basal half tinged with pink.

Hab. W. AFRICA, Mongo-ma-lobah, type † ♂ in Coll. Druce.
Exp. 42 millim.

SECT. III. Antennæ of male ciliated.

A. Abdomen crimson above.

- | | |
|---|----------------------|
| a. Fore wing with wedge-shaped black fascia beyond the cell | <i>gangis.</i> |
| b. Fore wing without fascia beyond the cell. | |
| a ¹ . Thorax with black stripes | <i>leucanioides.</i> |
| b ¹ . Thorax without black stripes | <i>punctivitta.</i> |
| B. Abdomen orange above | <i>transiens.</i> |

1848. *Creatonotus gangis*.

Phalena gangis, Linn. Amœn. Acad. vi. p. 410 (1764); Kirby, Cat. Het. p. 910.

Noctua interrupta, Linn. Syst. Nat. i. (2) p. 840 (1767); Sulz. Gesch. Ins. pl. 22. f. 3; Cram. Pap. Exot. ii. pl. 185, E; Moore, Lep. Ceyl. ii. p. 73, pl. 108. ff. 5, 5a; Hmps. Moths Ind. ii. p. 26; Kirby, Cat. Het. p. 241.

Bombix francisca, Fabr. Mant. Ins. ii. p. 131 (1787).

Creatonotus continuatus, Moore, A. M. N. H. (4) xx. p. 344 (1877); id. Lep. Ceylon, ii. p. 73, pl. 108. f. 4; Kirby, Cat. Het. p. 242.

♂. Head and thorax pinkish grey; palpi and frons black; a broad black dorsal stripe on tegulæ and thorax; pectus and legs black, the femora orange above; abdomen crimson above, with dorsal and lateral series of black spots, the ventral surface black. Fore wing pinkish grey; black points at each angle of cell; a fascia narrow at base, broad at extremity below the cell from near base to middle of vein 3, and a wedge-shaped patch from lower angle of cell to vein 6 near termen. Hind wing whitish to fuscous brown, darker at termen; a dark subterminal spot above vein 5.

Ab. 1. ♂ *continuatus*. Fore wing with additional black streaks in cell, below medial part of costa, beyond upper angle of cell, between veins 5, 4, and above vein 1 beyond middle; hind wing sometimes with spots at angles of cell and four subterminal spots.

Ab. 2. ♂ similar to female.—Karáchi.

♀. Head, thorax, and fore wing pale brownish ochreous; femora and ventral surface of abdomen brown, the latter with sublateral and ventral black spots. Hind wing ochreous white, usually with three subterminal black spots.

Hab. W. CHINA, Ichang (*Pratt*), 2 ♂; FORMOSA (*Hobson, Seeböhm*), 2 ♂; NEPAL (*Hardwicke*), 2 ♂, 1 ♀; KARÁCHI (*Swinhoe*), 1 ♂; BOMBAY (*Swinhoe*), 1 ♂; NILGIRIS (*Hampson*), 1 ♂; CEYLON (*Templeton, Lewis, Green, Yerbury*), 6 ♂, 2 ♀, type *continuatus*; BURMA, Moulmein (*Clerk*), 1 ♀, Rangoon (*Scott*), 3 ♂, 2 ♀, Mandalay (*Carpenter*), 1 ♀; SINGAPORE (*Ridley*), 3 ♂; JAVA, Batavia (*Andrews*), 1 ♀; N. AUSTRALIA, Adelaide R. (*J. J. Walker*), 1 ♂, 2 ♀. *Exp.*, ♂ 38, ♀ 40 millim.

Larva. Moore, Lep. E. I. C. p. 362, pl. 17. ff. 1, 1 a.

Black, sparsely clothed with long hair; head marked with white; a yellow dorsal stripe with series of orange spots on it; prolegs pale.

1849. *Cretonotus leucanioides*. (Plate XLVI. fig. 5.)

Cretonotus leucanioides, Holl. Psyche, vi. p. 397 (1893).

♂. Head and thorax brownish white; sides of frons and antennæ black; eyes with radiating black bars; tegulæ and thorax with black dorsal fascia; pectus and legs blackish; streaks below the wings and upperside of femora crimson; abdomen crimson, with dorsal and lateral series of black spots, the ventral surface brown. Fore wing semihyaline brownish white; a black fascia from base below the cell; a minute black point in lower angle of cell and short streak just beyond it; a short subterminal streak above vein 5. Hind wing almost hyaline white.

Hab. CAMEROONS, Ogowé R., type† ♂ in Coll. Holland. *Exp.* 40 millim.

Subsp. 1. Fore wing without the black fascia below the cell; hind wing tinged with fuscous.

Hab. SIERRA LEONE (*Austen*), 1 ♂.

1850. *Cretonotus punctivitta*. (Plate XLVI. fig. 20.)

Spilosoma punctivitta, Wlk. iii. 673 (1855); Kirby, Cat. Het. p. 242.

♂. Brownish white; palpi yellow, black at tips; sides of frons and antennæ black; pectus and legs brown, the fore coxæ at sides and femora above orange; abdomen crimson above, grey at sides, brown below, some yellow hair on sides at base; dorsal and lateral series of black spots, anal tuft pale at tips. Fore wing with black fascia below the cell to just beyond origin of vein 2; points in upper angle of cell and in and beyond lower angle; a short subterminal streak above vein 1. Hind wing semihyaline whitish, with black point in upper angle of cell.

Hab. NATAL (*Gueinzius*), 2 ♂ type, Durban (*Innes*), 1 ♂. *Exp.* 42 millim.

1851. *Cretonotus transiens*.

Spilosoma transiens, Wlk. iii. 675 (1855); Hmps. Moths Ind. ii. p. 29; Kirby, Cat. Het. p. 243.

Amphissa vacillans, Wlk. iii. 685 (1855); Butl. Ill. Het. B. M. iii. p. 5, pl. 42. f. 4; Kirby, Cat. Het. p. 243.
Aloa isabellina, Wlk. iii. 705 (1855).

Head and thorax white, very slightly tinged with brown; 3rd joint of palpi, sides of frons, and antennæ black; legs streaked with black, the femora orange above; abdomen orange above, the extremity of anal tuft and ventral surface white; dorsal, lateral, and sublateral series of small black spots. Fore wing white, the interspaces tinged with brown except the costal area; black points in and beyond upper and lower angles of cell; short subterminal



Fig. 150.—*Creatonotus transiens*, ♂. } (From Moths Ind. vol. ii.)

striae sometimes present above veins 5 and 1. Hind wing white; sometimes with subterminal points above veins 5 and 1.

Ab. 1. *vacillans*. Fore wing uniform brown except the costal area; hind wing brown with the cilia white.

Hab. CHINA, Ichang (*Pratt*), 1 ♂, Hongkong (*J. J. Walker*), 1 ♂, 1 ♀ type *vacillans*; FORMOSA (*Hobson*), 2 ♀; N.W. HIMALAYAS, Sultanpur (*G. Young*), 2 ♂, 1 ♀, Kumaon; SIKHIM, 1 ♂, 1 ♀; ASSAM, Sylhet, 1 ♂, 3 ♀, type and type *isabellina*; NILGIRIS (*Hampson*), 3 ♂, 1 ♀; BURMA, Moulmein (*Clerk*), 1 ♀; BORNEO, Sandakan (*Pryer*), 1 ♂, Sarawak (*Wallace*), 4 ♂, 1 ♀; JAVA (*Horsfield*), 2 ♂, 1 ♀; CELEBES (*Wallace*), 1 ♀; PHILIPPINES, 1 ♂, 1 ♀. *Exp.*, ♂ 50, ♀ 60 millim.

Larva. Moore, Lep. E. I. C. p. 290, pl. 13. f. 5.

Black blotched with red-brown, and with tufts of red-brown hair, the lateral tufts arising from rufous tubercles; a broad dorsal white stripe; head black marked with white. Food-plant, Galing (? *Cissus*).

Genus HYPHANTRIA.

<i>Hyphantria</i> , Harr. Ins. Mass. p. 255 (1841)	Type.
<i>Alexicles</i> , Grote, Trans. Kansas Ac. Sci. viii. p. 46 (1883)	<i>cunea</i> .
	<i>aspersa</i> .

Proboscis absent; palpi porrect, extending to just beyond frons and clothed with long hair; head and thorax clothed with long rough hair; antennæ of male with the branches moderate; fore tibiæ with curved claw on inner side and short claw on outer; hind tibiæ with the medial spurs absent. Fore wing with vein 3 from close to angle of cell; 5 from or from above angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with vein 3 from close to angle of cell; 5 from above angle; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. Fore wing with vein 5 from angle of cell.

- A. Fore wing white..... *cunea*.
 B. Fore wing blackish..... *aspersa*.

1852. *Hyphantria cunea*.

- Bombyx cunea*, Drury, Ill. Ex. Ent. i. pl. 18. f. 4 (1773); Hübn. Zutr. iii. ff. 405, 406; Stretch, Zyg. & Bomb. N. Am. p. 205, pl. 8. ff. 18-20; Druce, Biol. Centr.-Am., Het. ii. p. 389; Kirby, Cat. Het. p. 234.
Phalæna punctatissima, Abbot & Smith, Lep. Ins. Georg. ii. pl. 70 (1797).
Cyenia budea, Hübn. Zutr. Ex. Schmett. ii. ff. 387-388 (1827); Kirby, Cat. Het. p. 237.
Hyphantria textor, Harr. Rep. Ins. Mass. p. 255 (1841); Kirby, Cat. Het. p. 234.
Spilosoma mutans, Wlk. vii. 1697 (1856); Kirby, Cat. Het. p. 228.
Hyphantria punctata, Fitch, Rep. Ins. N.Y. iii. p. 387 (1856); Kirby, Cat. Het. p. 234.
Spilosoma candida, Wlk. xxxi. 291 (1864).
Hyphantria pallida, Pack. Proc. Ent. Soc. Phil. iii. p. 118 (1864); Skinner, Ent. News, i. p. 51 (1890); Kirby, Cat. Het. p. 269.

♂. Pure white; palpi above and branches of antennæ black; patagia and thorax sometimes with black streaks; fore coxæ orange with black patches, femora orange above, tibiæ and tarsi streaked with black; abdomen with fuscous bands or dorsal and lateral series of spots. Fore wing with slight black streaks at base; ante-medial, medial, postmedial, and subterminal series of spots, the 1st angled outwards below cell, the 2nd on median nervure, the 3rd



Fig. 151.—*Hyphantria cunea*, ♂. †.

excurred from below costa to vein 3, then incurved, the last sinuous, its costal half formed by short streaks on each side of the veins and with some spots before it; spots in the angles of cell and a series on termen and cilia. Hind wing with small discoidal spot and subterminal spots above vein 5 and below 2 often absent.

♀. Fore wing with the spots reduced and the series more widely separated.

Ab. 1. *punctata*. Fore wing with the spots reduced to one or two points in end of cell and one or two towards apex.

Ab. 2. *textor*. Wings wholly white.

Hab. CANADA; U.S.A. throughout, type *candida*, Zeller and Grote Colls.; MEXICO, Durango (*Becker*), 1 ♂, 2 ♀, Orizaba (*Elwes*), 1 ♂. *Exp.*, ♂ 34-42, ♀ 42-48 millim. Type † *mutans* in Mus. Oxon.

Larva. Smith, Rep. N. Jersey Exp. Stat. 1895, p. 458; Pack, J. N. Y. Ent. Soc. iii. p. 176; Dyar, J. N. Y. Ent. Soc. v. p. 130.

Black-brown, with subdorsal pale yellow stripes with deeper yellow spots on them and five black streaks; tufts of hair brown and white. Food-plants: mulberry, persimmon, willow, and wild cherry.

*1853. *Hyphantria aspersa*. (Plate XLVI. fig. 15.)

Alexicles aspersa, Grote, Trans. Kansas Ac. Sci. viii. p. 46 (1883); Kirby, Cat. Het. p. 201.

♂. Blackish fuscous; a scarlet rim behind the eyes; tarsi with reddish rings; abdomen scarlet above, with dorsal and lateral fuscous spots; anal tuft with some scarlet medial hairs; wings semidiaphanous. Fore wing with some obscure clouded blackish marks at base, at end of cell, and on subterminal area; traces of antemedial, medial, and postmedial bands, the last bent inwards below vein 4; the veins with slight interrupted white streaks. Hind wing hardly paler, with slight discoidal spot. Fore tibiae with the claw stout.

Hab. U.S.A., N. Mexico. *Exp.* 36 millim. This species is unknown to me, figured from a drawing from type.

SECT. II. Fore wing with vein 5 from above angle of cell.

*1854. *Hyphantria orizaba*.

Spilosoma orizaba, Druce, Biol. Centr.-Am., Het. ii. p. 389, pl. 77. f. 4 (1897).

♂. White; palpi and lower part of frons black, the former with crimson patch on basal joint; antennæ black, the basal joint crimson; tegulæ, patagia, and thorax with black stripes, a broad black stripe on metathorax and first segment of abdomen; femora crimson, fringed with white hair, tibiae and tarsi crimson and black; abdomen dorsally crimson from 2nd to terminal segment, with dorsal black stripe, lateral and sublateral series of black spots, the



Fig. 152.—*Hyphantria orizaba*, ♂. 1.

first three segments with ventral crimson bands. Fore wing with black-brown patch at base of costa and subbasal spot below cell; a broad antemedial band interrupted by white streaks on the veins and in submedian fold, its edges irregular and connected by an elongate spot between veins 2 and 3 with the double oblique postmedial series of irregular spots, and with wedge-shaped spots between veins 3 and 5, forming part of an oblique series increasing

in length from apex; a triangular patch of conjoined spots on costa before apex and some spots on termen. Hind wing with some spots in and below middle of cell and on discocellulars; an irregular series of subterminal spots interrupted between veins 3 and 4; a spot at apex followed by three or four points.

Hab. Mexico, Orizaba, 1 ♂ type† in Coll. Schaus. *Exp.* 46 millim.

Genus **ESTIGMENE**.

	Type.
<i>Estigmene</i> , Hübn. Verz. p. 184 (1827)	<i>acræa</i> .
<i>Phaos</i> , Wlk. iii. 627 (1855)	<i>interfixa</i> .
<i>Leucarctia</i> , Pack. Proc. Ent. Soc. Philad. iii. p. 124 (1864) ...	<i>acræa</i> .
<i>Epilacydes</i> , Butl. Cist. Ent. ii. p. 27 (1875)	<i>simulans</i> .
<i>Nyasa</i> , Moore, Lep. Atk. p. 43 (1879)	<i>florescens</i> .
<i>Nayasa</i> , Moore, Lep. Atk. p. 43 (1879)	<i>imbuta</i> .
<i>Rajendra</i> , Moore, Lep. Atk. p. 43 (1879)	<i>biguttata</i> .

Proboscis aborted, minute; palpi porrect, extending to just beyond frons; head and thorax clothed with rough hair; fore tibiæ with curved claw on inner side and short claw on outer; the spurs short. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4, 5 from angle of cell; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. (*Estigmene*). Antennæ of male bipectinate, with moderate branches.

A. Abdomen dorsally crimson.

a. Fore wing with scarlet fascia on base of costa *interfixa*.

b. Fore wing without scarlet fascia on costa.

*a*¹. Hind wing with the ground-colour yellow *imbuta*.

*b*¹. Hind wing with the ground-colour white..... *florescens*.

B. Abdomen orange above.

a. Fore wing with the ground-colour grey *trifasciata*.

b. Fore wing with the ground-colour yellow or buff.

*a*¹. Fore wing with the veins not streaked with black ... *dissimilis*.

*b*¹. Fore wing with the median veins streaked with black.

*a*². Fore wing with fine black streaks on the veins ... *tenuistrigata*.

*b*². Fore wing with the streaks more or less diffused.

*a*³. Fore wing bright yellow *lemniscata*.

*b*³. Fore wing buff.

*a*⁴. Fore wing not tinged with brown.

*a*⁵. Fore wing with subapical black fascia *scita*.

*b*⁵. Fore wing without subapical fascia *simulans*.

*b*⁴. Fore wing tinged with brown *linea*.

c. Fore wing with the ground-colour whitish or pure white.

*a*¹. Fore wing with black fascia on median nervure.

*a*². Fore wing with branching fascia on median nervure

quadriramosa.

*b*². Fore wing with straight fascia on median nervure to near termen

trivitta.

*b*¹. Fore wing without black fascia on median nervure.

*a*². Tegulæ with black points

pura.

*b*². Tegulæ without black points.

*a*³. Fore wing with more or less developed black points.

*a*⁴. Tibiæ and tarsi with white and black bands . *acræa*.

*b*⁴. Tibiæ and tarsi white, streaked with black ... *prima*.

*b*³. Fore wing with at most a black point at lower angle of cell

albida.

C. Abdomen white above..... *antigone*.

1855. *Estigmene interfixa*. (Plate XLVII. fig. 18.)

Phaos interfixa, Wlk. iii. 627 (1855); Kirby, Cat. Het. p. 262.

♂. Head and thorax black; frons yellow or greyish; tegulæ and patagia more or less strongly edged with yellow; legs mostly yellowish, the femora scarlet above; abdomen scarlet above with dorsal series of short black bands, the ventral surface yellowish with lateral and ventral series of black spots. Fore wing black, with scarlet fascia on or below basal part of costa; the spots yellowish white or bright yellow, and either small or occupying nearly the whole of interspaces; wedge-shaped spots in and below base of cell; quadrate patches in and below end of cell, a small wedge-shaped spot above base of vein 2, and streak above end of cell; a postmedial series of spots excurved to vein 3, then incurved; subterminal and terminal series of spots conjoined into short streaks; a deeper orange streak on inner margin and a short streak beyond discocellulars. Hind wing pale or deep orange, with diffused black streaks from base on median nervure and vein 1; a large discoidal lunule; a broad terminal black band, its inner edge indented at middle, and with subterminal orange spots on it at middle and above vein 1.

Hab. TASMANIA (*J. J. Walker*), 6 ♂ type. *Exp.* 40 millim.

1856. *Estigmene imbuta*.

Arctia imbuta, Wlk. iii. 614 (1855); Butl. Ill. Het. B. M. v. p. 33, pl. 86. f. 2; Hmps. Moths Ind. ii. p. 21; Kirby, Cat. Het. pp. 248, 257.

Head and thorax dark olive-brown; basal joint of antennæ and vertex of head yellowish white; tegulæ and patagia with yellowish edges; spots behind the head and femora above crimson; the tibiæ and tarsi with slight yellow points; abdomen crimson above, female with a dorsal series of black points, rarely present in male, the ventral surface brown or with broad sublateral yellowish-white stripes with series of black points on them and some ventral whitish points. Fore wing with the veins yellow; a white point at base, a subbasal white point below costa, and antemedial points below costa and in cell, sometimes absent; an irregular antemedial mark below the cell formed of two spots conjoined by a streak in submedian fold; a small spot in end of cell with another on costa above it and one below vein 2; a spot below end of cell; a postmedial series of spots excurved to vein 3, the medial and postmedial spots in submedian fold often conjoined by a streak; three obliquely placed spots towards apex; a curved series of spots on medial part of terminal area and a terminal series. Hind wing entirely dark, with the veins yellowish; antemedial, medial, and postmedial white spots on costal area, or with more or less interrupted and reduced postmedial and terminal yellow bands; or yellow with diffused blackish streaks on basal half and subterminal maculate band.

Hab. N.W. HIMALAYAS, Simla, Dalhousie (*Harford*), 1 ♂, 1 ♀; SIKHIM (*Lidderdale, Bingham*), 1 ♂, 4 ♀, type. *Exp.*, ♂ 50, ♀ 58-68 millim.

1857. *Estigmene florescens*.

Nyaca florescens, Moore, Lep. Atk. p. 43, pl. 2. f. 13 (1879); Butl. Ill. Het. B. M. v. p. 34, pl. 86. f. 3; Hmpsn. Moths Ind. ii. p. 21; Kirby, Cat. Het. p. 240.

White; palpi and lower part of frons olive-brown; antennæ black; tegulæ and patagia with olive-brown stripes, the former slightly edged with crimson; vertex of thorax olive-brown; pectus and legs olive-brown; a crimson stripe below the wings; fore coxæ at side and femora above crimson, femora and tibiæ with some white; abdomen crimson above, with dorsal, lateral, and sublateral series of black spots and ventral stripe. Fore wing with the veins orange; some elongate olive-brown spots on costal area; a maculate fascia composed of large conjoined spots on median nervure, conjoined to a large discoidal spot, to an oblique irregular band from apex and forking on veins 2, 3, 4; a more or less complete maculate fascia on vein 1, sometimes conjoined to the fascia on vein 2; some spots on termen. Hind wing sometimes with some fuscous at base; an antemedial spot on costal area; a discoidal spot; a spot on costa beyond middle; a more or less developed and conjoined subterminal series of spots; some spots on apical part of termen.

Hab. SIKHIM (*Atkinson, Lidderdale*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 54, ♀ 66 millim.

*1858. *Estigmene trifasciata*.

Alpenus trifasciata, Holl. Entom. xxv. Suppl. p. 92 (1892); id. Pr. U.S. Nat. Mus. 1895, p. 249, pl. vii. f. 10.

♂. Pale ashen-grey; frons and antennæ black; abdomen yellow, with dorsal and lateral series of black points; legs streaked with black above. Fore wing with black point at base; an oblique antemedial series of points, longer on costal half of wing; a short black streak below middle of costa with a triangular spot below it, and some short streaks and points above and below median nervure towards lower angle of cell; a postmedial series of points, excurved from costa to vein 3, then incurved; some subapical points. Hind wing with discoidal black point and subterminal points above veins 6 and 1.

Hab. E. AFRICA, Kilima'njaro. *Exp.* 30 millim. This species is unknown to me.

1859. *Estigmene dissimilis*. (Plate XLVII. fig. 1.)

Spilosoma dissimilis, Dist. A. M. N. H. (6) xx. p. 198 (1897).

♂. Head and thorax orange-yellow, vertex of head deeper orange; palpi and antennæ black; legs brown above; abdomen orange with dorsal and lateral series of black spots, the ventral surface ochreous. Fore wing orange-yellow, with black points at angles of cell. Hind wing yellowish white, the inner area and cilia more yellow; a diffused fuscous subterminal patch from below apex to vein 2.

♀. Palpi, frons, pectus, and legs black; a triangular black dorsal patch on tegulæ and a pair of stripes on thorax; hind wing black, with discoidal yellow spots, the cilia yellow.

Hab. TRANSVAAL (*Cregoe*), 1 ♂, 1 ♀. *Exp.* 40 millim. Type † ♀ in Coll. Distant.

1860. *Estigmene tenuistrigata*. (Plate XLVIII. fig. 16.)

Aloa tenuistrigata, Hmps. Ann. S. Afr. Mus. ii. p. 54 (1900).

Head and thorax bright ochreous yellow; palpi above, antennæ, and tibiæ and tarsi above black; abdomen orange, with dorsal black bands and lateral series of black points, the ventral surface ochreous. Fore wing bright ochreous yellow; the veins with fine black streaks, except the costal and base of subcostal nervures. Hind wing ochreous yellow, the veins with very slight black streaks.

Hab. MASHONALAND, Salisbury (*Marshall*), 5 ♂, 2 ♀, type. *Exp.* 46 millim.

1861. *Estigmene lemniscata*. (Plate XLVII. fig. 20.)

Spilosoma lemniscata, Dist. A. M. N. H. (7) i. p. 116 (1898).

♀. Head and thorax bright yellow; palpi, frons, and antennæ black, the upper part of frons with some yellow scales, an orange spot on vertex of head; black stripes on tegulæ and thorax, diverging and enclosing a yellow spot on metathorax; outer edge of patagia with black spot; pectus and legs black-brown, fore femora yellow on outer side; abdomen orange, with dorsal black patches at base and extremity and bands on medial segments; the ventral surface black, emitting lateral bands. Fore wing bright yellow; a black stripe on vein 1; a stripe on median nervure and streaks on the nervules, a slight streak on vein 5, a streak on vein 6, and V-shaped mark on veins 7, 8. Hind wing black, the cilia orange-yellow.

♂. Palpi, frons, and pectus yellow; legs yellow and brown; thorax without black stripes; abdomen ochreous below, the dorsal spots even in size throughout; fore wing with the black stripes much reduced; hind wing yellowish white.

Hab. MASHONALAND, Salisbury (*Marshall*), 1 ♂; TRANSVAAL, Johannesburg (*Cregoe*), 1 ♂, 1 ♀ type † in Coll. Distant. *Exp.* 34 millim.

1862. *Estigmene scita*. (Plate XLVII. fig. 8.)

Aloa scita, Wlk. xxxi. 302 (1864); Kirby, Cat. Het. p. 243.

♀. Ochreous; palpi blackish; antennæ black; neck with orange ring; thorax with black stripe on vertex; legs blackish, the femora orange above; abdomen orange above, with dorsal and lateral series of black spots. Fore wing with black fascia on median nervure gradually expanding from base to end of cell, where it is one-third width of wing, then narrowing to just before termen; a fascia from

just beyond upper angle of cell, reduced to spots towards its base and expanding towards apex. Hind wing orange-yellow.

Hab. SIERRA LEONE (*Foxcroft*), 1 ♀ type. *Exp.* 40 millim.

1863. *Estigmene simulans*. (Plate XLVII. fig. 27.)

Epilacydes simulans, Butl. Cist. Ent. ii. p. 27 (1875); Kirby, Cat. Het. p. 241.

♂. Ochreous; palpi and antennæ black; frons brown; neck with orange ring; thorax with black stripe on dorsum; legs fuscous, the femora orange above; abdomen orange above, with dorsal and lateral series of black spots. Fore wing with black stripe on median nervure, extending to just beyond angle of cell and somewhat dilated at extremity. Hind wing ochreous white.

Hab. FERNANDO Po (*L. Fraser*), 1 ♂ type. *Exp.* 40 millim.

Subsp. 1. Fore wing with the fascia extending to nearer termen and forking on veins 3, 4, a black point at upper angle of cell and a short streak above vein 7.

Hab. UP. EGYPT, White Nile (*Dunn*), 2 ♂.

1864. *Estigmene linea*. (Plate XLVII. fig. 2.)

Spilosoma linea, Wlk. iii. 671 (1855); Kirby, Cat. Het. p. 910.

Spilosoma dorsalis, Wlk. iii. 671 (1855).

Spilosoma truncatum, Wlk. vii. 1781 (1856); Kirby, Cat. Het. p. 910.

Spilosoma strigatum, Wlgrn. Wien. ent. Mon. iv. p. 161 (1860).

Lacides lineata, Butl. Cist. Ent. ii. p. 27 (1875).

Head and thorax brownish ochreous; palpi, antennæ, and stripes on patagia and thorax black; femora orange above; tibiæ and tarsi blackish; abdomen orange above, with dorsal series of black spots and lateral and sublateral series of points, the ventral surface ochreous. Fore wing ochreous, with fuscous black fasciæ on median nervure, base of vein 2, on veins 3, 4 to near termen, on middle of vein 6, and on vein 1 from base to near termen, often more or less obsolete except the fascia on median nervure. Hind wing orange-yellow, the terminal half often brownish.

Ab. 1. *truncata*. Head, thorax, fore wing, and terminal half of hind wing suffused with fuscous brown.

Hab. NATAL, Estcourt (*Hutchinson*), 2 ♂, Karkloof (*Marshall*), 1 ♂, Durban (*Bowker, Gueinzus*), 1 ♂, 1 ♀; C. COLONY (*Drège, Dr. A. Smith*), 3 ♂, 2 ♀, type and types *dorsalis* and *truncatum*, Transkei (*Miss F. Barrett*), 10 ♂, 2 ♀. *Exp.*, ♂ 42, ♀ 44 millim.

Subsp. 1. Fore wing with the black streaks very broad; hind wing with the basal half whitish, the terminal half brownish; female with veins 3, 4 streaked with black.

Hab. BR. E. AFRICA, Kikuyu, Nairobi (*Crawshay*), 1 ♂, 1 ♀.

1865. *Estigmene quadriramosa*. (Plate XLVII. fig. 26.)

Euprepia quadriramosa, Koll. Hügel's Kashmir, iv. (2) p. 468 (1844); Hampsn. Moths Ind. ii. p. 21; Kirby, Cat. Het. p. 243.

White; palpi, lower part of frons, branches of antennæ, spots on

tegulae and stripes on patagia, thorax and shoulders black; tegulae slightly edged with orange; femora orange above, the fore coxae, tibiae, and tarsi striped with black; abdomen orange above, with dorsal, lateral, and sublateral series of black spots. Fore wing with the basal half of costa black; a black stripe on subcostal nervure widening to costa before apex; a black fascia on median nervure emitting branches on veins 2, 3, 4, 5, those on veins 4, 5 reaching termen; a fascia on terminal part of vein 6 and a short fascia on extremity of vein 7; a fascia on vein 1 from near base to just before termen. Hind wing with discoidal black spot, and subterminal spots on veins 1, 2, and 5.

Ab. 1. Tegulae without spots; fore wing with the fasciae reduced to those on median nervure and vein 1; hind wing without subterminal spots.

Hab. KASHMIR, Goorais Valley (*Leech*), 1 ♂, 1 ♀; N.W. HIMALAYAS, 3 ♂, 3 ♀, Dalhousie (*Powell*), 3 ♂, 2 ♀, Kangra (*Hocking*), 4 ♂, 3 ♀, Kulu (*G. Young*), 1 ♂; SIKHIM, 1 ♂. *Exp.* 40 millim.

Larva. Butl. Ill. Het. vii. p. 121, pl. 131. f. 1.

Dark red-brown, with subdorsal series of black spots; the hairs from the warts fulvous and black, strong and spiniform.

1866. *Estigmene trivitta*. (Plate XLVII. fig. 7.)

Spilosoma trivitta, Wlk. iii. 673 (1855); Kirby, Cat. Het. p. 243.

Ochreous white; palpi, sides of frons, and antennae black; a dorsal black stripe on tegulae and thorax, and short stripes on patagia; legs mostly black, the femora orange above; abdomen orange above, with dorsal and lateral series of black spots and sublateral stripes not reaching extremity. Fore wing with black stripe below subcostal nervure and vein 6 from just beyond middle of cell to just before termen; a stripe on median nervure and vein 4 from base to just before termen, and a stripe on vein 1 from before middle to near termen. Hind wing white.

Hab. NATAL, 1 ♂, 1 ♀ type. *Exp.*, ♂ 42, ♀ 46 millim.

1867. *Estigmene pura*. (Plate XLVII. fig. 3.)

Alpenus purus, Butl. P. Z. S. 1878, p. 382; Kirby, Cat. Het. p. 238.

♀. Pure white; palpi black, fringed with white; antennae with the branches blackish; tegulae and patagia with black points; legs striped with black; abdomen dorsally orange, except basal and two terminal segments, usually a dorsal series of black spots on orange segments, a lateral series and two sublateral spots. Fore wing with some black points forming ill-defined antemedial, medial, and post-medial series; basal and subbasal points, points at angles of cell, an oblique series from near apex and a terminal series. Hind wing with small discoidal black spot and subterminal points above vein 5 and below 2.

Hab. ABYSSINIA, 1 ♀ type; BR. E. AFRICA, Sabaki Valley (*Gregory*), 2 ♀ (*Ansorge*), 1 ♀. *Exp.* 42 millim.

1868. *Estigmene acræa*.

- Bombyx acræa*, Drury, Ill. Exot. Ent. i. pl. 3. f. 2 (1773); Abbot & Smith, Lep. Georg. ii. pl. 67; Stretch, Zyg. & Bomb. N. Am. p. 99, pl. 4. ff. 1-3; Druce, Biol. Centr.-Am., Het. i. p. 116; Kirby, Cat. Het. p. 226.
Bombyx caprotina, Drury, Ill. Exot. Ent. i. pl. 3. f. 3 (1773); Stoll, Pap. Exot. iii. pl. 287, C.
Arctia pseuderminea, Harv. Rep. Ins. Injur. Veg. p. 354 (1841).
Cyenia dubia, Wlk. iii. p. 682 (1855); Kirby, Cat. Het. p. 227.
Leucarcetia californica, Pack. Proc. Ent. Soc. Philad. iii. p. 121 (1864).
Spilosoma mexicana, Wlk. xxxi. 291 (1864); Kirby, Cat. Het. p. 227.
Leucarcetia packardii, Schaup, Check-list Brooklyn Ent. Soc. p. 8 (1882).
Leucarcetia rickseckeri, Behr, Zoë, iv. p. 247 (1893).
Leucarcetia acræa, var. *klagesii*, Ehrmann, Can. Ent. 1894, p. 292.
Bombyx menthrastrina, Martyn, Psyche, pl. 15. f. 38, ined.

♂. Head and thorax white with a flesh-coloured tint; palpi black, fringed with orange below; sides of frons and antennæ black, pectus and legs orange, with black patches on fore coxæ and femora, the tibiæ and tarsi black, banded with white; abdomen orange, the base and extremity and lateral stripes and ventral bands whitish; dorsal, lateral, sublateral, and ventral series of black spots. Fore wing white with a slight flesh tint; five black spots on costa; a basal black point; obliquely placed antemedial black points below



Fig. 153.—*Estigmene acræa*, ♂. ‡.

cell and above vein 1; a medial series of four points; one or two points at lower angle of cell; a postmedial oblique series of points from below vein 6 to inner margin, sometimes with some points before their medial portion; a terminal series of points; the spots often very much reduced. Hind wing orange, with black discoidal lunule and more or less complete subterminal series of spots. Underside of fore wing orange; short subbasal black streaks on costa of each wing.

♀. Pure white; abdomen with the ventral surface white; fore wing sometimes with the series of spots more complete, the antemedial series being angled outwards below costa and on median nervure, inwards in cell, the medial series angled on median nervure and the postmedial excurved from below costa to vein 3, or the spots much reduced and many obsolete; hind wing and underside of fore wing white.

Ab. 1. ♂. Fore wing on right-hand side with the spots between the median nervules confluent and forming three black bars.

Ab. 2. *klagesi*. ♂. Fore wing with the black spots absent, except three on medial part of costa and six points on termen; hind wing with slight discal spot and points on termen near apex and tornus.

Ab. 3. *mexicana*. In Mexico, Honduras, and Guatemala a dimorphic form of the male is found with the hind wing and underside of fore wing white, the dorsal spots of abdomen being usually developed into short bands, which in the type ♀ are complete except on ventral surface.

Ab. 4. *dubia*. Head, thorax, and wings tinged with brown.

Hab. CANADA, 1 ♂, Hudson's Bay, 1 ♀ type *dubia*; BR. COLUMBIA, 2 ♀; U.S.A., N. York, Georgia, Massachusetts, Washington, Colorado, Grote and Zeller Colls., 13 ♂, 9 ♀; MEXICO, Presidio (*Forrer*), 1 ♂, Jalapa (*Hoege*, *Trujillo*), 4 ♂, 4 ♀, Mexico (*Hoege*), 1 ♂, Cordova (*Rümeli*), 1 ♂, 2 ♀, Orizaba (*Godman*), 1 ♀, Coatepec (*Brooks*), 1 ♀, Tepic (*Richardson*), 1 ♀, Patycuaro (*Godman*), 1 ♂, Vera Cruz (*Schumann*), 2 ♂, 1 ♀, Misantla (*Trujillo*), 1 ♂, Durango (*Becker*), 2 ♂, 1 ♀, Yucatan (*Gaumer*), 2 ♂; GUATEMALA (*Champion*, *Rodriguez*), 4 ♂, 2 ♀; HONDURAS (*Blancaneaux*), 1 ♂, Godman-Salvin Coll. *Exp.*, ♂ 46-56, ♀ 52-62 millim.

Egg. Pack. Ann. N. Y. Ac. Sci. viii. p. 74 (1893).

Hemispherical, rather high; white, with coarsely-pitted surface with swollen polygonal edges; diam. .6 millim.

Larva. Stage 1. Head shining black; body dusky flesh-colour; cervical shield crescent-shaped, dark chestnut; piliferous warts large; the two dorsal tubercles of somites 2 and 3 and the lateral tubercles with two hairs; the abdominal dorsal and subdorsal tubercles with one hair; some of the hairs very long.

Stage 2. Head tinged with chestnut; the clypeal and labral region pale flesh; the body pale greenish with yellowish tints; the cervical shield bisected; the tubercles dark, the hairs blackish; the dorsal and subdorsal warts usually with five hairs, one long; a subdorsal row of irregular reddish-brown spots and a similar lateral series.

Stage 3. The tubercles with black and white hair of uneven length; a broad somewhat interrupted dorsal white line becoming yellow towards extremity; a broad yellowish lateral band bounded above and below by a somewhat wavy yellowish-white line, interrupted by a yellow patch on each somite with the tubercles on them black towards each extremity, yellowish at middle.

Stage 4. The dorsal line absent and the dorsal area ashen-grey, with spreading verticillate hairs on the two middle series of tubercles, the subdorsal tubercles with longer unequal hair; two lateral series of small bright-yellow spots with reddish-brown tubercles between them emitting grey and white hairs; spiracles whitish on a black ground; ventral surface leaden-grey; head and antennae yellowish.

Stage 5. Hair long and slender, some towards extremity very long; dorsal hair black-brown; warts dark, the lateral ones reddish; lateral hair reddish; spiracles buff-coloured, prominent.

Food-plant, *Plantago*.

1869. *Estigmene prima*. (Plate XLVIII. fig. 21.)

Spilosoma prima, Sloss. Ent. Am. v. p. 40 (1889); Kirby, Cat. Het. p. 228.

♀. White; palpi orange, black at tips; femora orange above; fore tibiæ streaked with orange and fuscous, the mid and hind tibiæ at extremity and tarsi tinged with fuscous; abdomen dorsally and laterally orange-yellow except basal and two terminal segments, dorsal, lateral, and sublateral series of black spots. Fore wing with antemedial series of black points angled below median nervure; a medial series of spots obtusely angled on median nervure; a black spot at lower angle of cell; a maculate postmedial line strongly excurved from below costa to vein 3, then oblique; a spot on costa towards apex; an oblique series of short streaks on each side of the veins from apex to vein 5, and a subterminal series from vein 5 to inner margin; the termen tinged with fuscous. Hind wing with discoidal lunule; a subterminal series of spots below costa, above and below vein 5, and three towards tornus.

Hab. U.S.A., New York, 1 ♀, N. England, northwards. *Exp.* 46 millim.

1870. *Estigmene albida*.

Leucarctia albida, Stretch, Zyg. & Bomb. N. Am. p. 203, pl. 8. f. 22 (1874); Wheeler's Rep. W. 100th Merid. v. p. 798, pl. 40. ff. 4, 5; Druce, Biol. Centr.-Am., Het. i. p. 117; Kirby, Cat. Het. p. 227.

Pure white; palpi orange below, black above; antennæ black, the shaft annulated with white; fore coxæ orange and black; femora orange above; tibiæ and tarsi banded with black; abdomen orange above, white at base, extremity, and on ventral surface, a dorsal series of short black bands and lateral and sublateral series of points. Fore wing immaculate, or with black point at lower angle of cell and rarely a point on costa towards apex. Hind wing immaculate, or with black discoidal point and with subterminal points above vein 5 and below veins 2 and 1.

Hab. CALIFORNIA; COSTA RICA (*Rogers, Van Patten*), 8 ♂, 3 ♀, Godman-Salvin Coll. *Exp.* 50 millim.

This may be only an extreme form of the white variety of *E. acrea*.

1871. *Estigmene antigone*. (Plate XLVII. fig. 22.)

Spilosoma congrua, Wlk. iii. 669 (1885), ♂; Kirby, Cat. Het. p. 234.
Spilosoma antigone, Streck. Rep. Chief of Engineers, 1877, App. SS.
 p. 1860; Kirby, Cat. Het. p. 226.
Spilosoma athena, Streck. Suppl. ii. p. 4 (1899).

♂. White; head with a yellowish tinge; palpi streaked with

black at sides ; branches of antennæ blackish ; femora orange above ; fore tibiæ and the tarsi streaked with black. Fore wing with antemedial black point below median nervure ; medial points below subcostal nervure, two below medial nervure, and one above vein 1 ; points at angles of cell ; a postmedial point above vein 6, an obliquely-curved punctiform line between veins 5 and 2 and a point above 1 ; an oblique series of short streaks on each side of the veins from apex, and a subterminal series from vein 5 to inner margin. Hind wing immaculate.

Ab. 1. *athena*. Antennæ with the shaft black-scaled. This is unknown to me and may be a distinct species.

Hab. U.S.A., Atlantic States to Rockies, Georgia, 1 ♂ type *congrua*. *Exp.* 44 millim.

Larva. Pack, J. N. Y. Ent. Soc. iii. p. 176.

Stage 1. Head with two dark spots, later becoming dark ; body white ; the flattened setiferous tubercles dusky ; prothoracic plate divided ; the dorsal and lateral tubercles of abdominal somites with single hairs which are finely spinulate and long.

SECT. II. (*Rajendra*). Antennæ of male with extremely short branches.

- A. Fore wing with maculate white patches *ceylonensis*.
- B. Fore wing with white fascia.
 - a. Fore wing with the white fascia bent below end of cell, then running to apex.
 - a¹. Fore wing with the upper edge of the fascia slightly excised beyond lower angle of cell *irregularis*.
 - b¹. Fore wing with the upper edge of fascia not excised beyond the cell *perrotteti*.
 - b. Fore wing with the fascia regularly curved to apex *vittata*.
- C. Fore wing black with hardly a trace of the fascia *nigricans*.

1872. *Estigmene ceylonensis*, n. sp. (Plate XLVII. fig. 9.)

♀. Head and thorax dark brown ; palpi crimson at base ; vertex of head white, with brown spot ; tegulæ white, with brown spots and slightly edged with crimson ; patagia with the lower half white, with brown spots on shoulders ; femora whitish towards base, crimson above ; abdomen crimson above, with dorsal, lateral, and sublateral series of brown spots, the ventral surface white with brown bands on terminal segments. Fore wing dark brown, with irregular white marks at base and small pink marks on inner margin, the basal marks conjoined to two irregular white antemedial conjoined spots extending from middle of cell to vein 1 ; two conjoined, curved, postmedial bands from lower end of cell to vein 1, with a small spot below them on inner margin and another above their outer extremity ; points below middle of costa and on discocellulars ; two postmedial points from costa and three obliquely placed from just before apex ; a curved series of six spots on terminal area between veins 6 and 1, and some points on termen. Hind wing crimson ; the costal area brown to beyond middle, with

white point at middle and conjoined to spots at middle and end of cell; a subterminal bar from costa to vein 5, a spot on vein 2, and a terminal spot on vein 1.

Hab. CEYLON, Hambantota (*Pole*), 1 ♀ type. *Exp.* 32 millim.

1873. *Estigmene irregularis*.

Rajendra irregularis, Moore, Lep. Ceyl. ii. p. 72, pl. 107. f. 2 (1882); Hmps. Moths Ind. ii. p. 23; Kirby, Cat. Het. p. 248.

♂. Head and thorax black-brown; basal joint of antennæ pink; pinkish-white fasciæ meeting on vertex of head, thence diverging on tegulæ and patagia, which last have black spots; femora crimson above; abdomen crimson above, with dorsal series of short black bands, the ventral surface black. Fore wing black, with white fascia from base below the cell, its lower edge excised at middle, at vein 2 bent upwards to apex, its edges waved and emitting a small tooth into lower end of cell. Hind wing pale crimson; the costal area black; a black discoidal spot; a subterminal band from costa to vein 5, a spot on vein 2, and a terminal spot on vein 1.

Hab. CEYLON (*Green*), 3 ♂ type. *Exp.* 32–36 millim.

1874. *Estigmene perrotteti*. (Plate XLVII. fig. 16.)

Chelonia perrottetii, Guér. Icon. R. Anim., Ins. p. 515 (1844); Kirby, Cat. Het. p. 248.

Aloa biguttata, Wlk. iii. 707 (1855); Hmps. Moths Ind. ii. p. 23; Kirby, Cat. Het. p. 248.

Rajendra lativitta, Moore, Lep. Atk. p. 43 (1879); Kirby, Cat. Het. p. 248.

♂. Head and thorax black-brown; basal joint of antennæ pink; pinkish-white fasciæ meeting on vertex of head, thence diverging on tegulæ and patagia, on which last are black spots; femora crimson above; abdomen crimson above, with dorsal series of short black bands, the ventral surface black. Fore wing black, with pinkish-white fasciæ from base below cell, nearly straight to vein 2, then bent up to apex and with slightly sinuous edges. Hind wing pale crimson; the costal area black; a black discoidal spot; a subterminal band from costa to vein 5, a spot on vein 2, and a terminal spot on vein 1; cilia yellowish-white.

♀. Hind wing deeper crimson; the black markings more developed; the cilia black.

Hab. PUNJAB, Simla (*Harford*), 1 ♀, Jubbulpore, 1 ♂; BENGAL, Parisnath, 1 ♂ type *lativitta*; BOMBAY (*Swinhoe*), 1 ♀; CANARA (*Ward*), 1 ♂, 1 ♀ type *biguttata*; NILGIRIS, W. slopes (*Hampson*), 1 ♂, 3 ♀; COIMBATORE (*Walhouse*), 1 ♀. *Exp.*, ♂ 40, ♀ 44 millim.

1875. *Estigmene vittata*.

Rajendra vittata, Moore, P. Z. S. 1879, p. 396, pl. 32. f. 12; Hmps. Moths Ind. ii. p. 22; Kirby, Cat. Het. p. 248.

Head and thorax black-brown; basal joint of antennæ pink;

pinkish-white fasciæ meeting on vertex of head, thence diverging to tegulæ and patagia, the last with black spots; femora crimson above; abdomen crimson above, with dorsal series of short black bands, the ventral surface black. Fore wing black, with almost evenly-curved, pinkish-white fascia from base of inner margin narrowing



Fig. 154.—*Estigmene vittata*, ♂. $\frac{1}{4}$.

to apex; cilia pinkish white or black. Hind wing pale crimson; costal area black from near base to beyond middle; a black discoidal spot with yellowish round it, similar irregular spots before termen at veins 5 and 2, and on termen at vein 1; cilia yellowish white.

♀. Cilia of both wings black, or of hind wing partly pale; hind wing deeper crimson, without pale edges to the spots.

Hab. NILGIRIS PLATEAU (*Lindsay, Hampson*), 4 ♂, 2 ♀; BURMA, 1 ♂ type. *Exp.*, ♂ 48, ♀ 52 millim.

1876. *Estigmene nigricans*. (Plate XLVII. fig. 17.)

Aloa nigricans, Moore, P. Z. S. 1872, p. 572; Hmps. Moths Ind. ii. p. 23; Kirby, Cat. Het. p. 248.

♂. Head and thorax black; outer edge and extremity of patagia whitish; femora scarlet above; abdomen scarlet above, with dorsal series of black bands, the ventral surface black. Fore wing fuscous black. Hind wing scarlet; the costal area black, expanding in end of cell and emitting a subterminal band to vein 3; a large subterminal spot on vein 2 and a terminal spot on vein 1; cilia yellowish.

Ab. 1. Yellowish-white stripes meeting on vertex of head, diverging on tegulæ and patagia, on which last are black spots; fore wing with faint traces of a pale fascia from base below the cell curving up to apex.

Possibly a melanism of *vittata*.

Hab. BOMBAY, Matheran (*Leith*), 1 ♂; DECCAN (*Day*), 1 ♂ type. *Exp.* 40 millim.

Genus **PERICALLIA.**

	Type.
<i>Pericallia</i> , Hübn. Verz. p. 182 (1827)	<i>matronula</i> .
<i>Pleretes</i> , Led. Verh. zool.-bot. Ges. Wien, ii. p. 77 (1853) ...	<i>matronula</i> .
<i>Alope</i> , Wlk. iii. 619 (1855)	<i>ricini</i> .
<i>Areas</i> , Wlk. iii. 658 (1855)	<i>galactina</i> .
<i>Satara</i> , Wlk. xxxi. 160 (1864)	<i>æquata</i> .
<i>Ethalida</i> , Wlk. xxxi. 320 (1864)	<i>distinguenda</i> .
<i>Arctioneura</i> , Feld. Reis. Nov. p. 2 (1874), non descr.	<i>æquata</i> .
<i>Meringocera</i> , Feld. Reis. Nov. p. 6 (1874)	<i>distinguenda</i> .
<i>Tatargina</i> , Butl. Trans. Ent. Soc. 1877, p. 366	<i>picta</i> .
<i>Pangora</i> , Moore, Lep. Atk. p. 42 (1879)	<i>distorta</i> .
<i>Melanareas</i> , Butl. Ill. Het. B. M. vii. p. 29 (1899)	<i>imperialis</i> .

Proboscis aborted, minute; palpi porrect to just, or well, beyond the frons; head and thorax smoothly scaled; tibiæ with the spurs short. Fore wing with vein 3 from before angle of cell; 5 from above angle, abnormally 4, 5 shortly stalked; 6 from upper angle; 7, 8, 9, 10 stalked; 11 from cell. Hind wing with veins 3 and 5 from near angle of cell; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. (*Alope*). Antennæ of male bipectinate with moderate branches, of female serrate.

- A. Hind wing black with orange medial band *æquata*.
- B. Hind wing crimson or yellow *ricini*.
- C. Hind wing pale brownish.
 - a. Fore wing with small black spots at lower angle of cell ... *transversa*.
 - b. Fore wing with large black patch from costa to below lower angle of cell *sjostedti*.

1877. **Pericallia æquata.**

Satara æquata, Wlk. xxxi. 160 (1864); Kirby, Cat. Het. p. 33.

Arctioneura lorquinii, Feld. Reis. Nov. pl. 107. f. 16 (1874).

Black-brown; tegulæ orange; abdomen orange, with dorsal series of short black bands and sublateral series of spots; wings with the veins paler. Fore wing with nearly erect medial orange band varying in width and with waved edges. Hind wing with broader orange medial band with small black discoidal lunule on it, its outer edge crenulate, its inner sinuous.

Hab. CELEBES (*Wallace*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 46, ♀ 54 millim.

1878. **Pericallia ricini.**

Bombyx ricini, Fabr. Syst. Ent. p. 583 (1775); Moore, Lep. Ceyl. ii. p. 70, pl. 106. ff. 2 a, c.; Hmps. Moths Ind. ii. p. 17; Kirby, Cat. Het. p. 247.

Bombyx zerah, Stoll, Pap. Exot. iv. pl. 397, G (1782).

Alope ocellifera, Wlk. iii. p. 620 (1855).

Alope clavatus, Swinh. P. Z. S. 1885, p. 295.

Head and thorax dark grey-brown; tegulæ and patagia with grey-edged black spots; abdomen scarlet, with dorsal series of black spots and lateral bands. Fore wing dark grey-brown, sometimes paler or reddish with series of grey-edged black-brown spots; a

basal spot; a subbasal series of four spots; an antemedial series with the spot below the cell displaced outwards; two medial series



Fig. 155.—*Pericallia ricini*, ♂. †.

excurved at median nervure and bent outwards to inner margin; four spots beyond the cell; a postmedial series of spots which are larger except the spot above vein 3; a subterminal series of double dentate spots; a terminal series of small triangular spots. Hind wing scarlet, with maculate black subbasal band; a maculate medial band angled outwards at lower angle of cell and vein 1; a maculate subterminal band expanding greatly above submedian fold and vein 4; a terminal band dentate inwards at veins 2 and 3.

Ab. 1. *zera*. Abdomen and hind wing yellow.

Hab. N.W. HIMALAYAS, Simla (*Harford*), 2 ♂; ASSAM, Silhet, 2 ♀; CALCUTTA, 1 ♀; PUNJAB, Jubbulpore (*F. Butler*), 1 ♂, 1 ♀; RAJPOOTANA, 2 ♂, 1 ♀; BOMBAY (*Leith, Swinhoe*), 5 ♂, 3 ♀, type *clavatus*, Poona, 2 ♂, 2 ♀, Mhow (*Swinhoe*), 1 ♀; CANARA (*Ward*), 1 ♂, 2 ♀; MYSORE, Shimoga (*Watson*), 1 ♀; NILGIRIS (*Hampson*), 3 ♂, 4 ♀; CEYLON (*Templeton, Yerbury*), 2 ♂, 7 ♀. *Exp.*, ♂ 32–50, ♀ 60–68 millim.

Larva. Dark brown speckled with white, and with dorsal and lateral tufts of long dark hair. Food-plants, *Notonia*, *Fagraea*.

1879. *Pericallia transversa*. (Plate XLVII. fig. 5.)

Cyenia transversa, Moore, P. Z. S. 1879, p. 398; Hmps. Moths Ind. ii. p. 18; Kirby, Cat. Het. p. 908.

♀. (Head and abdomen wanting.) Pale brown. Fore wing with whitish-edged black markings; four obliquely-placed points at base, below costa, in cell, and above vein 1; an antemedial series of five spots oblique from costa to median nervure, then incurved; a similar medial series conjoined into an irregular band interrupted in submedian fold; clusters of small spots and points at the angles of cell, with a spot on costa above them; an incurved postmedial series of small spots between vein 5 and inner margin; a subterminal series with the spots between veins 5 and 2 obsolescent; some points below costa towards apex; a terminal series of small spots, except towards tornus. Hind wing with discoidal spot; subterminal spots on costa and vein 5 and from above 2 to near tornus; some points at apex.

Hal. N.W. INDIA, 1 ♀ type. *Exp.* 40 millim.

*1880. *Pericallia sjostedti*. (Plate XLVII. fig. 24.)*Spilosoma sjostedti*, Auriv. Ent. Tidskr. 1899, p. 240.

♀. Pale reddish brown; palpi with the 3rd joint black; antennæ whitish; black patches on frons, vertex of head, tegulæ, patagia, and shoulders; legs blackish in front; abdomen dull orange, with dorsal and lateral series of black spots, the ventral surface whitish. Fore wing with white-edged black spots; a point at base; an antemedial series of five spots, the three towards costa elongate; a medial spot on costa; a large irregular patch from costa to below lower end of cell, with the veins crossing it whitish; two pairs of small spots above and below base of vein 2; an oblique patch from apex to below vein 6, followed by small spots on veins 5, 4, 3; a terminal series of points. Hind wing with discoidal lunule; points on termen between apex and vein 3 and small indistinct subterminal spots above 5, below 2, and above 1; underside with small medial and postmedial spots on costa.

Hab. CAMEROONS, type ♀ in Mus. Stockholm. *Exp.* 46 millim.

SECT. II. (*Areas*). Antennæ of male bipectinate, with very short branches.

A. Abdomen dorsally crimson or tinged with scarlet.

a. Fore wing with the ground-colour scarlet *picta*.

b. Fore wing with the ground-colour not scarlet.

a¹. Hind wing crimson.

a². Fore wing with two postmedial and subterminal bands forming an X-mark *elliotti*.

b². Fore wing without X-mark on terminal area.

a³. Fore wing with double oblique series of spots or maculate band from lower angle of cell to inner margin *sipahi*.

b³. Fore wing with irregular white fascia from base to beyond cell.

a⁴. Fore wing with the fascia continued obliquely to termen below apex *pannosa*.

b⁴. Fore wing with the fascia joined by a band from costa before apex *dentata*.

b¹. Hind wing whitish *geometrica*.

c¹. Hind wing yellow, often partly suffused with crimson.

a². Fore wing with white fasciæ in cell and submedian interspace *imperialis*.

b². Fore wing with white spots in cell and submedian interspace *galactina*.

c². Fore wing with narrow oblique medial fuscous band *melanopsis*.

B. Abdomen orange above.

a. Fore wing with postmedial white band arising from costa well before apex *tripartita*.

b. Fore wing with oblique band from apex.

a¹. Fore wing with basal and antemedial white spots below cell.

a². Fore wing without white patch on apical part of termen *obliquifascia*.

b². Fore wing with white patch on apical part of termen conjoined to the oblique band *conjuncta*.

b¹. Fore wing with white fascia below the cell bent up obliquely to apex *integra*.

c. Fore wing without band *melanimon*.

1881. *Pericallia picta*.

Deiopeia picta, Wlk. xxxi. 263 (1864); Hmps. Moths Ind. ii. p. 54; Kirby, Cat. Het. p. 351.

Tatargina formosa, Butl. Trans. Ent. Soc. 1877, p. 366; id. Ill. Het. B. M. iii. p. 8, pl. 43. f. 1; Kirby, Cat. Het. p. 351.

♂. Head, thorax, and abdomen scarlet; antennæ black; tegulæ, patagia, meso- and metathorax with white patches with black spots on them; legs striped with black; abdomen with dorsal, lateral, and sublateral series of black spots, the ventral surface whitish. Fore wing scarlet, with subbasal, two antemedial, medial, postmedial, and



Fig. 156.—*Pericallia picta*, ♂. 4. (From Moths Ind. vol. ii.)

subterminal white bands with series of black-edged grey spots on them, the 1st two angled outwards below costa, the 4th with a lunulate spot just beyond or conjoined to the grey discoidal spots, the spots of the subterminal band elongate. Hind wing yellow, suffused with scarlet.

♀. Abdomen yellow above, scarlet towards base, the ventral surface with black and white bands; hind wing scarlet; an antemedial black spot on costa, a discoidal spot with another on costa above it, sometimes some spots between lower angle of cell and inner margin; some postmedial and subterminal spots towards costa.

Ab. 1. *formosa*. Fore wing with the bands wider.

Hab. S. CHINA, 1 ♀ type *formosa*; BURMA, Moulmein, 1 ♀ type, Prome, Kalewa (*Watson*), 3 ♂, Hsipaw (*De Nicéville*), 1 ♂. *Exp.*, ♂ 40, ♀ 54–58 millim.

1882. *Pericallia ellioti*.

Callaretia ellioti, Butl. P. Z. S. 1895, p. 739, pl. 43. f. 6.

♀. Head and thorax black-brown; vertex of head and antennæ pinkish white; tegulæ white with brown spots; base of patagia and sides of thorax white; some crimson on neck and prothorax; femora crimson above; abdomen crimson, with dorsal and lateral series of black spots, the ventral surface brownish. Fore wing dark brown; a pinkish fascia in base of cell to an oblique fascia from costa before middle across the cell, then along submedian fold to termen, with an oblique band from it just below the cell to inner margin near base; the postmedial band oblique from costa to vein 5, then inwardly oblique and ending at submedian fascia; the subterminal band arising from apex joining the postmedial band at vein 5, then bent outwards to termen at submedian fascia. Hind wing pale crimson,

with subterminal dark brown band from costa to vein 5, a spot from vein 3 to submedian fold, and another at tornus; underside with discoidal spot, the costal area suffused with brown on apical half.

Hab. BR. E. AFRICA, Uganda (*Scott-Elliot*), 1 ♀ type. *Exp.* 48 millim.

1883. *Pericallia sipahi*. (Plate XLVII. fig. 10.)

Aloa sipahi, Moore, P. Z. S. 1872, p. 573; Hmps. Moths Ind. ii. p. 24; Kirby, Cat. Het. p. 248.

♂. Head and thorax black-brown; vertex of head white; tegulæ white, with black spots and edged with scarlet; patagia with the outer part white, with black spots on shoulders, the upper edge blackish; fore coxæ at sides and femora above scarlet, the basal half of femora white; abdomen crimson above, white below, with dorsal, lateral, and sublateral series of black spots. Fore wing black-brown, with black point on white spot at base; antemedial and medial series of spots, the spots and series more or less conjoined; two oblique series of spots below end of cell, usually more or less conjoined and with a point below them on inner margin; a point on middle of costa with one below it in cell and one on discocellulars; two obliquely placed spots from costa beyond middle and three from near apex; a curved series of four to six spots on medial part of terminal area. Hind wing scarlet, with antemedial, medial, and subterminal dark patches on costa, and subterminal often conjoined spots on veins 2 and 1.

Ab. 1. The scarlet replaced by yellow.

♀. Fore wing with the spots more conjoined and with an irregular submedian fascia; the postmedial series more complete, and the subterminal series larger and more elongate.

Hab. BOMBAY (*Leith, Wise*), 2 ♂, Matheran (*Swinhoe*), 1 ♂; DECCAN, 1 ♂ type; MADRAS, 1 ♀. *Exp.*, ♂ 32, ♀ 48 millim.

1884. *Pericallia pannosa*.

Rajendra pannosa, Moore, P. Z. S. 1879, p. 397, pl. 32. f. 8; Hmps. Moths Ind. ii. p. 23; Kirby, Cat. Het. p. 248.

♂. Head and thorax black-brown; the upper part of frons and vertex of head pinkish white, with black spot on latter; basal joint of antennæ pink, the shaft sometimes white towards base and tips; tegulæ white with black spots; patagia white, black above; femora scarlet and white above; abdomen crimson above, with dorsal, lateral, and sublateral series of black spots, the ventral surface whitish. Fore wing black-brown, with antemedial, medial, and postmedial white spots on costa; three obliquely placed points from costa before apex; a very irregular pinkish-white fascia from base below the cell, its lower edge usually enclosing two dark points, then excised, its upper edge extending in places into the cell, from vein 2 oblique and with very irregular edges to termen at vein 6, two spots sometimes present beyond the cell, and two towards tornus. Hind wing

pale crimson; a blackish spot on middle of costa and another at upper angle of cell; two conjoined spots from before apex to vein 5 and a terminal spot on vein 1.

♀. Hind wing deeper crimson, with a subterminal spot below vein 2 sometimes conjoined to the spot on vein 1.

Ab. 1. Fore wing with the white markings considerably reduced.

Hab. N.W. HIMALAYAS, Sultanpur (*McArthur*), 2 ♂, Simla (*Harford*), 1 ♂, Murree, 1 ♀, Kangra (*Hocking*), 3 ♂, 3 ♀ type. *Exp.* 38-46 millim.

1885. *Pericallia dentata*.

Aloa dentata, Wlk. iii. 708 (1855); Hmps. Moths Ind. ii. p. 23; Kirby, Cat. Het. p. 248.

Aloa khandalla, Moore, Lep. E. I. C. p. 361, pl. 9. f. 13 (1859); Kirby, Cat. Het. p. 248.

♂. Head and thorax black-brown; basal joint of antennæ crimson; vertex of head and fasciæ on tegulæ and patagia pinkish white, the tegulæ with crimson edge at middle, the patagia with black spots; femora crimson above; abdomen crimson above, with dorsal series of short black bands, the ventral surface black. Fore wing black-brown; a pinkish-white fascia from base below the cell, its upper edge with two teeth extending into the cell, its lower edge dentate near base and below vein 2, where it is bent upwards to the costa before apex; white patches on termen below apex and at middle. Hind wing white, tinged with pink towards inner margin; the terminal half of costal area black; a subterminal band from apex to vein 5, a spot on vein 2, and a terminal spot on vein 1.

♀. Hind wing crimson, with the markings more developed.

Hab. BOMBAY (*Swinhoe*), 1 ♂, Kandalla, 1 ♂, Canara (*Ward*), 2 ♂, 2 ♀, type and type *khandalla*; NILGIRIS (*Hampson*), 1 ♂, 2 ♀. *Exp.* 44-50 millim.

*1886. *Pericallia geometrica*.

Chelonia geometrica, Oberth. Ann. Mus. Genov. xviii. p. 735, pl. 9. f. 7 (1883); Kirby, Cat. Het. p. 272.

♂. Head and thorax black; vertex of head, tegulæ at front and sides, edges of patagia, and a V-shaped mark on thorax pink; abdomen pink. Fore wing black; some pinkish white at base of inner margin; a pinkish streak from base of costa to termen at vein 1; an almost medial line oblique from costa to median nervure where it is angled, then very oblique to inner margin before middle; the postmedial line oblique from costa to vein 5 where it is angled, then oblique to the angle of medial line and again angled to termen beyond middle; the subterminal line oblique from apex to vein 6, below which it is angled outwards to termen, then inwards to angle of postmedial line, then to termen at vein 2 and inwards to the streak. Hind wing whitish, with black spot on middle of costa and

discoidal point; subterminal spots above and below vein 7, below 2 and above 1.

Hab. ABYSSINIA. *Exp.* 56 millim. This species is unknown to me.

1887. *Pericallia imperialis*.

Euprepia imperialis, Koll. Hügel's Kashmir, iv. (2) p. 466, pl. 21. f. 1 (1844); Hmps. Moths Ind. ii. p. 25; Kirby, Cat. Het. p. 253.

Head and thorax black; antennæ with the shaft whitish above towards tips; vertex of head, stripes on tegulæ, and the patagia yellowish white, the last with black points; neck with crimson ring; tegulæ crimson below; pectus with crimson stripe below the wings; coxæ crimson behind; abdomen crimson above with black bands, the ventral surface black with paired series of yellowish points. Fore wing black, with yellowish-white fascia from base through the cell to termen below vein 6, narrowing towards termen, and beyond upper angle of cell almost joined by an oblique irregular band from costa before apex; a fascia in submedian interspace from base to termen; an oblique streak from below origin of vein 3 to termen at vein 2, rarely with a short streak above base of vein 3; a series of conjoined terminal spots. Hind wing orange-yellow with black discoidal lunule; a broad black subterminal band from costa to vein 4, and large spots on veins 2 and 1.

Hab. N.W. HIMALAYAS, Mussourie, 1 ♂, Kangra (*Hocking*), 2 ♂, 5 ♀; SIKHIM. *Exp.*, ♂ 80, ♀ 94 millim.

Larva. Black, with tufts of long ferruginous hair; head ferruginous; stigmata white.

1888. *Pericallia galactina*.

Chelonia galactina, Hœv. Tijdschr. Nat. Gesch. Phys. vii. p. 280, pl. 6. f. 5 (1840); Hmps. Moths Ind. ii. p. 25; Kirby, Cat. Het. p. 253.

Areas orientalis, Wlk. iii. 658 (1855).

Numenes trigonalis, Voll. Tijdschr. Ent. vi. p. 140, pl. 10. fig. 1 (1863).

Areas cana, Druce, A. M. N. H. (7) iii. p. 234 (1899).

Palpi crimson, black at tips; frons black; antennæ black, the shaft white above towards extremity; vertex of head white, more or less suffused with crimson; thorax white; tegulæ, shoulders, and patagia with black-brown spots, the vertex of thorax with broad brown stripe; tegulæ edged with crimson; pectus and legs crimson, the latter striped with black-brown, the fore coxæ with brown spots; abdomen scarlet above, with dorsal, lateral, and sub-lateral series of black spots, the ventral surface orange, often tinged with scarlet. Fore wing black-brown, with white spot at base; elongate subbasal spots below costa, in cell, and on inner margin, and a triangular spot below the cell with another beyond it; an elongate spot below middle of costa, with a wider spot below it and beyond cell; spots below the cell above and below vein 3; a triangular postmedial spot on costa, with a small spot below it above

vein 5, and another in submedian fold; a terminal series of elongate quadrate spots between veins 2 and apex, towards which they decrease; the markings sometimes very largely developed and covering the greater part of wing. Hind wing orange-yellow, sometimes tinged with scarlet at base or to near termen; a black



Fig. 157.—*Pericallia galactina*, ♂. $\frac{1}{2}$. (From Moths Ind. vol. ii.)

discoïdal spot or lunule usually present, sometimes a postmedial spot on vein 2; subterminal spots below vein 2 and on vein 1, and sometimes one above vein 5.

Ab. 1. *cana*. Hind wing wholly scarlet.—Sumatra.

Hab. W. CHINA, Chia-kou-ho, 1 ♂, Omei-shan, 1 ♀, Moupin, 1 ♂; N.W. HIMALAYAS, Simla, Kulu; SIKHIM, 1 ♂ 2 ♀, type *orientalis*; ASSAM, Khâsis, 1 ♀, Nâgas; BORNEO, Sarawak (*Wallace*), 1 ♂, 2 ♀; SUMATRA, type† *cana* in Coll. Druce. *Exp.*, ♂ 66, ♀ 90 millim.

Subsp. 1. Vertex of head and legs orange.

Hab. JAVA (*Horsfield*), 1 ♂ 1 ♀, Arjuno, 3000 feet (*Doherty*), 1 ♂.

1889. *Pericallia melanopsis*.

Arctia melanopsis, Wlk. xxxi. 280 (1864); Moore, Lep. Ceyl. ii. p. 75, pl. 108. f. 2; Hmps. Moths Ind. ii. p. 10; Kirby, Cat. Het. p. 254.

Aloa callisoma, Feld. Reis. Nov. iv. pl. 101. f. 4 (1874).

Head and thorax brownish ochreous; 3rd joint of palpi and frons blackish; shoulders and patagia with black points; fore coxæ at sides and femora above crimson; the tibiæ and tarsi fuscous; abdomen crimson above, with dorsal and lateral series of black spots and sublateral series of points, the ventral surface ochreous white. Fore wing brownish ochreous, with nearly straight oblique fuscous line from costa beyond middle to middle of inner margin; cilia pure white. Hind wing orange-yellow, the inner area tinged with crimson in male, in female the greater part of wing suffused with crimson; cilia pure white.

Hab. CEYLON, 1 ♂, 2 ♀, type. *Exp.*, ♂ 56, ♀ 86 millim.

1890. *Pericallia tripartita*.

Aloa tripartita, Wlk. iii. 706 (1855); Hmps. Moths Ind. ii. p. 24; Butl. Ill. Het. v. p. 35, pl. 86. f. 4; Kirby, Cat. Het. p. 248.

♀. Head and thorax black-brown; vertex of head yellow, with a dark spot; tegulæ and patagia with yellow stripes; abdomen yellow above, with dorsal series of black bands and patch on terminal segment, the ventral surface black. Fore wing black, with yellowish-white spots below base and middle of cell, a spot in middle of cell, an obliquely curved postmedial maculate band, and sometimes subterminal spots between veins 2 and 1. Hind wing yellow; the costal area black, expanding into a triangular discoidal patch; a subterminal band from costa to below vein 4; a large spot on vein 2, and a terminal spot on vein 1.

Hab. BURMA, Moulmein (*Clerk*), 2 ♀ type. *Exp.* 40 millim.

1891. *Pericallia conjuncta*, n. sp. (Plate XLVII. fig. 11.)

♂. Head and thorax black-brown; vertex of head yellowish white with dark spot; yellowish fasciæ on tegulæ and patagia; abdomen orange above, with dorsal series of black bands, the ventral surface black. Fore wing black, with white patch below base of cell, expanding just into cell and connected with a patch below middle of cell, conjoined to one in and above middle of cell and to one below end of cell, which is joined by an oblique band from apex confluent with a terminal series of spots between veins 2 and 6. Hind wing yellowish white, the inner area yellow; the medial costal area black, conjoined to a discoidal spot.

Hab. LOMBOK (*Doherty*), 1 ♂ type. *Exp.* 32 millim.

1892. *Pericallia obliquifascia*. (Plate XLVII. fig. 12.)

Alphæa obliquifascia, Hmps. Moths Ind. ii. p. 24 (1894).

♂. Head and thorax black-brown; vertex of head yellow, with a black spot; the tegulæ and patagia with yellow stripe; abdomen orange above, with dorsal series of short black bands and patch on terminal segment, the ventral surface black. Fore wing black, with yellowish-white spots below base and middle of cell; an oblique band of spots from apex to below base of vein 2; one to four subterminal spots between veins 2 and 6, the one above vein 3 larger and always present. Hind wing yellow; the medial costal area black and conjoined to a discoidal spot; a terminal spot on vein 1, and sometimes a subterminal spot on vein 2; cilia whitish; the veins often blackish towards termen.

♀. Hind wing deeper orange-yellow, with the spots more developed and the cilia black.

Hab. N.W. HIMALAYAS, Dharmasāla; ASSAM, 2 ♂; BURMA, Rangoon (*Scott*), 2 ♂ type, Thayetmyo (*Watson*), 1 ♀, Dawnat Hills

(*De Nicéville*), 1 ♀; JAVA (*Horsfield*), 1 ♂, 4 ♀. *Exp.*, ♂ 38, ♀ 46 millim.

1893. *Pericallia integra*. (Plate XLVII. fig. 23.)

Aloa integra, Wlk. iii. 707 (1855); Kirby, Cat. Het. p. 248.

♂. Head and thorax black-brown; vertex of head yellow with dark spot; tegulæ and patagia with yellow stripes; abdomen orange above, with dorsal series of black bands and patch on terminal segment, the ventral surface black. Fore wing black, with white fascia from base below the cell nearly straight to vein 2, then oblique with slightly waved edges to apex. Hind wing yellowish white, the inner area deeper yellow; the costal area black, conjoined at middle to a discoidal spot.

Hab. PHILIPPINES, 1 ♂ type. *Exp.* 38 millim.

*1894. *Pericallia melanimon*. (Plate XLVII. fig. 4.)

Arctia melanimon, Mab. C. R. Soc. Ent. Belge, xxiii. p. xvi (1880); Kirby, Cat. Het. p. 229.

♀. Head and thorax deep red-brown; basal joint of antennæ orange; femora orange above; abdomen orange, with short dorsal black bands, the ventral surface red-brown. Fore wing deep red-brown, with the costal edge orange. Hind wing fuscous black; the costal area orange-yellow to near apex, emitting a small discoidal lunule; the inner margin and cilia yellow.

Hab. MADAGASCAR, type ♀ in Coll. Mabilie. *Exp.* 38 millim.

SECT. III. (*Pericallia*). Antennæ of male serrate.

- | | |
|---|--------------------|
| A. Fore wing with oblique postmedial band; hind wing | |
| crimson | <i>hodeva</i> . |
| B. Fore wing without postmedial band; hind wing orange... | <i>matronula</i> . |

*1895. *Pericallia hodeva*.

Hoplarctia hodeva, Druce, Biol. Centr.-Am., Het. ii. p. 392, pl. 77. f. 15 (1897).

♂. Head and thorax black-brown; tegulæ and base of patagia yellowish white; abdomen blue-black; genital tufts orange. Fore wing black-brown; a yellowish-white fascia from base just below costa to the oblique postmedial band in submedian interspace. Hind wing crimson, the



Fig. 158.—*Pericallia hodeva*, ♂. †.

inner area and a broad terminal band black.

Ab. 1. Hind wing orange-yellow.

Hab. MEXICO, Jalisco, type ♂ in Coll. Schaus. *Exp.* 38 millim.

1896. *Pericallia matronula*.

Noctua matronula, Linn. Syst. Nat. i. p. 509 (1758); Esp. Schmett. iv. p. 44, pl. 86. ff. 1-5; Staud. Cat. p. 57; Kirby, Cat. Het. p. 257.

Phalæna idriensis, Scop. Annus N. H. v. p. 113 (1772).

Bombyx matrona, Hübner. Eur. Schmett. ii. ff. 238, 239; Godt. Lép. Fr. iv. p. 333, pl. 34. f. 5.

Head and thorax black-brown; palpi except at tips, basal joint of antennæ, bars above frons and above eyes, and edges of tegulæ crimson; outer edge of tegulæ and patagia with yellow stripes; thorax with crimson stripes and metathorax edged with crimson; pectus crimson; legs fuscous, the femora above and stripes on hind tibiæ and spots on tarsi crimson; abdomen crimson, with dorsal and lateral series of black spots and sublateral fuscous patches. Fore wing olive-brown, with pale yellow spot in and below base of cell, often joined to an antemedial spot on or just below costa; a medial spot on costa extending into the cell; a postmedial patch extending to vein 5, with a small spot beyond it just below costa, sometimes confluent with it; traces of a dark medial band sometimes present; a postmedial yellow spot sometimes present on or above vein 2. Hind wing orange, with irregularly waved medial black band often reduced to spots; a large discoidal spot; a subterminal maculate band, sometimes complete, sometimes interrupted at middle.

Hab. E. FRANCE; GERMANY, Zeller and Frey Colls.; LIVONIA; HUNGARY; SWITZERLAND; RUSSIA. *Esp.* 80-92 millim.

Larva. Kirby, Eur. Butt. & Moths, p. 102.

Early stages whitish; later stages dark brown with tufts of long reddish-brown hair. Food-plants when young, hazel, elm, etc., during later stages on herbaceous plants such as *Lonicera xylosteum*.

SECT. IV. (*Æthalida*). Antennæ of male ciliated.

- A. Vertex of thorax with dark stripes.
 - a. Fore wing with usually complete postmedial white band *erosa*.
 - b. Fore wing with irregular postmedial, usually conjoined, white patches on costal and inner areas *matherana*.
- B. Vertex of thorax with dark spots.
 - a. Fore wing with the markings white.
 - a¹. Fore wing with irregular postmedial band *distorta*.
 - b¹. Fore wing with medial white patch on costa and no postmedial band *rudis*.
 - b. Fore wing with the markings yellowish buff.
 - a¹. Hind wing crimson *conflictalis*.
 - b¹. Hind wing brown.
 - a². Hind wing with yellowish markings on costa and inner area and some subterminal spots *dora*.
 - b². Hind wing with scarlet markings on costa *plutonica*.
- C. Vertex of thorax wholly brown.
 - a. Hind wing with the markings on costal area scarlet ... *dohertyi*.
 - b. Hind wing with the markings on costal area yellowish. *distinguenda*.

1897. *Pericallia erosa*.

Aloa erosa, Wlk. iii. 708 (1855); Moore, Lep. Ceyl. ii. p. 72, pl. 107. ff. 1, 1a; Hmps. Moths Ind. ii. p. 19; Kirby, Cat. Het. p. 247.

Head dark brown, the vertex white, palpi scarlet, brown at tips; basal joint of antennæ scarlet; thorax white, with black spots on tegulæ and patagia and stripe on vertex, the tegulæ slightly edged with scarlet; neck with scarlet ring; pectus and legs brown, the femora scarlet above; abdomen scarlet above with dorsal series of black spots, the ventral surface black with scarlet segmental bands. Fore wing black-brown, with very irregular white fascia from base below the cell to the oblique postmedial band, emitting spurs on upper side to below costa near base and before middle, and to costa at middle of cell, its lower edge enclosing a dark spot near base, then with two hooks, then excised, the postmedial band sometimes broken at middle and not reaching inner margin; a white spot at apex, a subterminal spot below vein 6, and a terminal spot on vein 3. Hind wing crimson; black spots at lower angle of cell and on vein 1; large conjoined subterminal patches below apex and at middle, and a terminal patch at vein 1; some spots on termen towards apex; cilia white at tips. Underside of fore wing with the white on basal half largely suffused with crimson; hind wing paler, with the medial spots more developed.

Ab. 1. Fore wing with the basal white markings not connected by a fascia with the postmedial band, which is broken up into spots; no spots on terminal area; hind wing with complete medial band and the whole terminal area brown.—Travancore.

Hab. NILGIRIS, S. slopes; TRAVANCORE, Trevandrum, 1 ♂; CEYLON, Pundaloya (*Green*), 3 ♂, 2 ♀, type. *Exp.*, ♂ 54, ♀ 58 millim.

Larva. Moore, Lep. Ceyl. ii. p. 72, pl. 107. f. 1b.

Dark brown with dense tufts of blackish hair. Food-plants, *Gloriosa superba* and *Thunbergia*.

1898. *Pericallia matherana*.

Pangora matherana, Moore, P. Z. S. 1879, p. 396; Waterh. Aid. ii. pl. 131. f. 6; Hmps. Moths Ind. ii. p. 20; Kirby, Cat. Het. p. 247.

Head brown, the palpi yellow at base, the vertex white with brown spot; thorax white, with black spots on tegulæ and patagia and brown stripe on vertex, the tegulæ slightly edged with yellow; pectus and legs brown, the fore coxæ yellow at sides, the femora yellow above; abdomen yellow above, with dorsal and lateral series of black spots, the ventral surface brown with whitish patch at base. Fore wing dark brown, with very irregular white patch on basal third, with black point below base of costa and two above vein 1, its upper edge dentate towards costa near base and before middle of cell; a very irregular double partially-conjoined postmedial band, its inner portion bent inwards to costa and often interrupted at middle and at inner margin, its outer edge very irregularly dentate; two white spots at apex, one subterminal

below vein 6 and others on termen on each side of vein 3. Hind wing yellow, with medial brown band with wavy edges and narrowing or interrupted towards inner margin; a very irregular subterminal maculate band, expanding to apical part of termen and usually enclosing some yellow points, sometimes touching termen at vein 2 and ending on termen at vein 1.

Hab. BOMBAY, Matheran (*Leith*), 1 ♂, 3 ♀, type. *Exp.*, ♂ 52, ♀ 60 millim.

Subsp. 1. *rubelliana*, Swinh. P. Z. S. 1889, p. 403; Hmspn. Ill. Het. B. M. viii. p. 6, pl. 143. f. 18; id. Moths Ind. ii. p. 19.

All the yellow areas replaced by scarlet; hind wing with the medial band reduced to spots or almost absent.



Fig. 159.—*Pericallia rubelliana*, ♂. 1. (From Moths Ind. vol. ii.)

Hab. N. CANARA (*Wise*), 1 ♂ type; NILGIRIS (*Hampson*), 1 ♀; TRAVANCORE, Naganâd (*Fellows-Wilson*), 1 ♂.

1899. *Pericallia distorta*.

Pangora distorta, Moore, Lep. Atk. p. 42, pl. 2. f. 14 (1879); Hmspn. Moths Ind. ii. p. 19; Kirby, Cat. Het. p. 247.

♂. Head dark brown, the vertex yellowish white with brown spot; thorax yellowish white, with brown spots on tegulæ, patagia, pro-meso- and metathorax; coxæ whitish, femora scarlet above; abdomen scarlet above, with dorsal and lateral series of black spots, the ventral surface brown with scarlet bands. Fore wing brown, the veins pale; a whitish mark at base; two irregular oblique whitish antemedial bands from subcostal nervure to vein 1, conjoined in submedian fold and emitting a spur to base; an irregular postmedial band, its inner edge dentate at vein 6, emitting an oblique spur into upper angle of cell and another spur in submedian fold, its outer edge dentate at the veins and in submedian fold; obliquely placed subterminal spots above and below vein 6, and another on vein 3. Hind wing scarlet; brown spots on costa at middle and above discoidal spot; subterminal spots on each side of veins 7, 5, 2, and 1, and some terminal spots towards apex.

Hab. N.W. HIMALAYAS, Simla, Mussoorie (*Hutton*), 1 ♂ type. *Exp.* 60 millim.

1900. *Pericallia rudis*.

Areas rudis, Wlk. xxxi. 287 (1874); Swinh. Cat. Het. Mus. Oxon. p. 176, pl. iv. f. 6; Kirby, Cat. Het. p. 253.

♀. Head and thorax white; palpi, lower part of frons, antennæ, and edges of tegulæ scarlet; frons, vertex of head, tegulæ, shoulders, patagia pro- meso- and metathorax with paired black spots; pectus, legs, and abdomen scarlet, the last with dorsal and lateral series of black points. Fore wing red-brown; an irregular white patch on basal area from just above median nervure to just below vein 1, with two black points on it at base; an irregular medial patch from costa to below vein 2, with a bar-shaped spot below it; a small round discoidal spot with another beyond it in discoidal fold; a series of rather elongate spots from costa before apex to termen at vein 2, the spot above vein 4 small. Hind wing scarlet, with two small fuscous spots below costa towards apex. Underside of fore wing with the markings of basal half tinged with scarlet, of terminal half with ochreous.

Hab. CELEBES, Makassar (Wallace), 1 ♀ type† in Mus. Oxon. *Exp.* 60 millim.

*1901. *Pericallia conflictalis*.

Areas conflictalis, Wlk. xxxi. 286 (1864); Swinh. Cat. Het. Mus. Oxon. p. 176, pl. iv. f. 5; Kirby, Cat. Het. p. 253.

♀. Head scarlet; antennæ brownish; tegulæ scarlet, with large brown patches; thorax pale ochreous, with black spots on patagia, meso- and metathorax; pectus, legs, and abdomen scarlet, the last with dorsal and lateral series of small black spots. Fore wing reddish brown; a pale ochreous patch on basal area from just above median nervure to above inner margin, with two black points on it at base; a large irregular medial patch from costa to just below median nervure; a spot in end of cell; a postmedial series of spots curved below costa, the spots above veins 3 and 4 small, and the spot above vein 1 much larger; a trifid patch at apex with two small spots below it; a terminal spot on vein 2, with small sub-terminal point above it. Hind wing scarlet. Underside of fore wing with the basal half and the markings of terminal half scarlet.

Hab. BATCHIAN (Wallace), 1 ♀ type† in Mus. Oxon. *Exp.* 66 millim.

*1902. *Pericallia dora*.

Pangora dora, Semper, Schmett. Phil. ii. p. 490, pl. 55. f. 7 (1899).

♂. Head orange, with black spots on frons and vertex of head; thorax dull white, tegulæ edged with orange; tegulæ, patagia, pro-meso- and metathorax with black spots; pectus orange; legs fuscous and orange; abdomen orange, with series of dorsal and lateral black spots, and two ventral spots on subterminal segment. Fore wing red-brown; some whitish marks at base; a yellowish-white spot in and below cell; a rounded spot in middle of cell; a

spot just beyond discocellulars with one above it below costa; a small triangular spot between veins 3, 4; a large rounded apical spot, and a small subterminal spot between veins 2 and 3. Hind wing red-brown; the costal area and cell yellow to just beyond its extremity, with a small brown spot in lower end of cell; the inner area yellow; a small subapical spot and a subterminal lunule between veins 3, 4.

Hab. PHILIPPINES, S.E. Mindanão, type † ♂ in Coll. Semper. *Exp.* 48 millim.

*1903. *Pericallia plutonica*.

Meringocera plutonica, Feld. Reis. Nov. pl. 101. f. 11 (1874); Kirby, Cat. Het. p. 222.

Meringocera tricolor, Pag. J.B. Nass. Ver. xli. p. 118 (1888); Kirby, Cat. Het. p. 222.

Pangora burica, Holl. Nov. Zool. vii. p. 560 (1900).

♂. Dark brown; palpi, points on frons, and base of antennæ crimson; tegulæ edged with crimson; meso- and metathorax with crimson points; pectus and legs crimson and brown; abdomen with the anal tuft crimson, the lateral and ventral surfaces crimson, with lateral series of black spots and ventral bands towards extremity. Fore wing with slight ochreous marks at base; a pinkish-ochreous elliptical spot in cell towards upper angle. Hind wing with semihyaline streaks in and below cell. Underside with the spot in cell of fore wing crimson; a crimson fascia on basal half of costa of hind wing, sometimes extending into base and end of cell.

♀. Vertex of head yellowish at sides; thorax with more ochreous, the dark markings reduced especially on patagia. Fore wing with two subapical yellowish spots. Hind wing without semihyaline streak.

The type of *plutonica* has veins 4, 5 of fore wing shortly stalked.

Hab. MOLUCCAS (*Lorquin*), type † ♂ in Coll. Rothschild; AMBOINA; BOURU (*Doherty*), type † *burica* in Coll. Holland; BATCHIAN, 1 ♂ in Mus. Oxon. *Exp.* 52 millim.

1904. *Pericallia dohertyi*, n. sp. (Plate XLVII. fig. 14.)

♂. Black-brown, or dark red-brown; palpi, basal joint of antennæ, edges of tegulæ, the greater part of pectus and femora above scarlet; tarsi mostly scarlet and orange; abdomen scarlet, with broad dorsal black-brown fascia and lateral and sublateral series of bands, the latter forming bands on terminal segments, the medial segments dorsally edged with scarlet. Fore wing with ochreous spot at base, sometimes conjoined to a subbasal spot below the cell; a spot in upper end of cell usually connected with costa; two conjoined apical spots. Hind wing with semihyaline patch in and below end of cell; the basal half of costal area scarlet, more or less confluent with a spot beyond the cell which is partly yellowish; a slight scarlet streak in basal part of submedian fold.

Hab. SANGIR (*Doherty*), 2 ♂ type. *Exp.* 52 millim.

*1905. *Pericallia distinguenda*.

Æthalida distinguenda, Wlk. xxxi. 321 (1864); Swinh. Cat. Het. Mus. Oxon. p. 175 (part), pl. 4. f. 3; Kirby, Cat. Het. p. 278.

♂. Very dark chocolate-brown; palpi scarlet except at tips; antennæ scarlet at base; sides of frons and vertex of head whitish; tegulæ narrowly edged with scarlet; patagia with the basal part whitish, with a large brown spot on shoulders; legs whitish, scarlet and brown; abdomen with scarlet lateral stripe except on terminal segment, emitting segmental bands nearly or quite joining on dorsum and with a lateral series of black spots on it, a conjoined series of ventral whitish bands, the terminal segment with scarlet sub-lateral and whitish ventral spots. Fore wing with white point at base, a subbasal spot below the cell, and an elliptical spot in end of cell. Hind wing with semihyaline fascia above and below median nervure; a yellowish-white fascia just below costa and in cell from near base to middle, followed by a spot beyond middle; subterminal scarlet points above veins 6 and 3.

Hab. CELEBES, Menádo (*Wallace*), type † ♂ in Mus. Oxon. *Exp.* 50 millim.

Genus *ECPANTHERIA*.

	Type.
<i>Ecpanttheria</i> , Hübner. Verz. p. 183 (1827).....	<i>ocularia</i> .
<i>Catenina</i> , Burm. Ann. Mus. B. Ayres, iii. p. 42 (1883)	<i>heterogena</i> .

Proboscis aborted, slight; palpi porrect, not reaching beyond the frons; head and thorax smoothly scaled; hind tibiæ with the medial spurs absent; abdomen with a little rough hair at base of dorsum. Fore wing with vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell or shortly stalked; 5 from just above angle; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. (*Catenina*). Antennæ of male bipectinate with short branches.

A. Abdomen with the base white, in male extending to middle. *mus*.

B. Abdomen with the base dark, the hair at base only white ... *heterogena*.

1906. *Ecpanttheria mus*.

Ecpanttheria mus, Oberth. Ét. Ent. vi. p. 109, pl. 16. f. 1 (1881); Kirby, Cat. Het. p. 216.

♂. White; head and thorax slightly tinged with grey; palpi, lower part of frons, and a patch below antennæ black; antennæ with the shaft at middle and extremity and the branches black; tegulæ with two black streaks; patagia with two streaks meeting at extremity; legs banded with black; abdomen with large dorsal black patch on subterminal segments, a sublateral series of black spots. Fore wing hyaline from median nervure before middle to termen at apex and submedian fold; five black-ringed spots on costa, four above vein 1, and four on inner margin; a terminal series of black striae. Hind wing almost hyaline, the inner area more thickly scaled; some black points on costa and termen near apex and often towards tornus which is slightly produced.

♀. Thorax darker grey; abdomen dorsally black except at base.

Fore wing tinged with pale yellow-brown, with series of grey black-edged spots; a subbasal series of two spots, four antemedial spots, and a short black streak in cell; six medial spots, the spot in costa irregular, the one in cell elongate and both joined to the discoidal spot; postmedial and subterminal series of eight and nine spots, and a terminal series of nine more or less elongate spots. Hind wing fuscous black, with the base and veins paler, some whitish subterminal marks on the veins.

Hab. BRAZIL, Castro Paraña, 1 ♂. *Exp.*, ♂ 42, ♀ 52 millim.

1907. *Ecpantheria heterogena*.

Ecpantheria heterogena, Oberth. Ét. Ent. vi. p. 109, pl. 15. f. 2 (1881); Kirby, Cat. Het. p. 218.

Ecpantheria contexta, Oberth. Ét. Ent. vi. p. 109, pl. 16. f. 2 (1881); Kirby, Cat. Het. p. 218.

Ecpantheria pellucida, Schaus, P. Z. S. 1892, p. 282; id. Am. Lep. p. 13, pl. 3. ff. 11, 12.

♂. Head and thorax grey-white; sides of frons blue-black; antennæ with the branches black; tegulæ and patagia with two black stripes meeting at extremity; legs banded with black; abdomen dorsally blue-black except at base and extremity. Fore wing brownish white, hyaline from median nervure before middle to termen at apex and vein 1; five black-edged spots on costa, from



Fig. 160.—*Ecpantheria heterogena*, ♂. 1.

above vein 1, and four on inner margin; cilia chequered with black. Hind wing hyaline, the inner area clothed with white hair; a black spot on tornal lobe, and sometimes some points on termen towards apex; the underside with three black-edged spots on costa; the tornus slightly produced.

♀. Head and thorax whiter, with brown between the black lines; abdomen with the extremity black. Fore wing with series of black-edged brown spots; two irregular subbasal spots; an antemedial series of 6 spots, the spot in cell elongate and connected with the medial series, which has conjoined irregular spots on costa and in and beyond cell, then becoming two series each of five spots; a subterminal series of nine spots, and a terminal series becoming elongate towards apex. Hind wing fuscous black, the apical area from middle of costa to tornus white, with subterminal series of large fuscous spots and terminal series of small spots.

Ab. 1. *contexta*. ♀. Fore wing with the spots smaller and well

separated, the medial series widely separated from the postmedial towards costa; hind wing with the subterminal spots small.

Hab. BRAZIL, Rio Janeiro, 1 ♂. *Exp.*, ♂ 54, ♀ 68 millim. Types † ♂ and type † ♀ *contexta* in Coll. Oberthur, type † *pellucida* in Coll. Schaus.

Subsp. *bahiaensis*, Oberth. Ét. Ent. vi. p. 109, pl. 16. f. 5 (1881); Kirby, Cat. Het. p. 218.

Ecpantheria boisduvali, Oberth. Ét. Ent. vi. p. 110, pl. 16. f. 6 (1881); Kirby, Cat. Het. p. 218.

♀. Fore wing with the spots white-centred, the antemedial and medial spots being largely confluent in *bahiaensis*, more separate in *boisduvali*; hind wing with the blackish area including the subterminal spots and leaving a narrow white band from apex to submedian fold with the terminal spot on it.

Hab. BRAZIL, Bahia, type † and type † *boisduvali* in Coll. Oberthur. *Exp.* 56 millim.

This may prove distinct from *heterogena* when the male is discovered.

SECT. II. (*Ecpantheria*). Antennæ of male serrate and ciliated.

A. Hind wing of male with the tornus produced to a more or less elongate pointed lobe, of female slightly produced.

a. Abdomen crimson with black bands *nigriplaga*.

b. Abdomen orange and black.

a¹. Hind wing of male with a tornal lobe produced to a long acute point.

a². Fore wing with series of dark olive-brown spots.

a³. Fore wing with the veins of terminal area yellowish, with brown spots on each side of them at termen.

a⁴. Mesothorax with paired dark patches *leta*.

b⁴. Mesothorax with a dorsal dark patch *ochreator*.

b³. Fore wing with the veins of terminal area white, with single spots on termen.

a⁴. Patagia with the brown stripe extending to base; tornal lobe of male very long *magdalene*.

b⁴. Patagia with the brown stripe not extending to base; the tornal lobe of male shorter ... *leucarctioides*.

b². Fore wing with series of black-edged annulate spots *decora*.

b¹. Hind wing of male with the tornal lobe slightly or moderately developed.

a². Fore wing with the ground-colour white.

a³. Fore wing with series of black spots *persola*.

b³. Fore wing with series of black-edged annulate spots.

a⁴. Fore wing strongly irrorated with fuscous ... *gaujoni*.

b⁴. Fore wing not irrorated with fuscous.

a⁵. Thorax and base of fore wing tinged with pink.

a⁶. Abdomen with dorsal orange stripe on medial segments *kinkelini*.

b⁶. Abdomen with dorsal orange bands *peruvensis*.

b⁵. Thorax and fore wing without pink tinge.

a⁶. Abdomen blue-black, with dorsal series of orange spots or segmental bands.

a⁷. Frons black.

- a*⁸. Fore wing of male without hyaline area.
*a*⁹. Antennæ blue-black.
*a*¹⁰. Hind wing with slight black streak on middle of inner area and spot on tornal lobe.
*a*¹¹. Fore wing with the spots white strongly edged with blue-black *deflorata*.
*b*¹¹. Fore wing with the spots greyish with narrow black edges *abdominalis*.
*b*¹⁰. Hind wing of male with black fascia on inner area *alpha*.
*b*⁹. Antennæ white *albicornis*.
*b*⁸. Fore wing of male with the area from end of cell to termen hyaline.
*a*⁹. Abdomen with slight dorsal orange spots, sometimes absent *ocularia*.
*b*⁹. Abdomen with dorsal series of orange bands *robusta*.
*b*⁷. Frons white with blackish bar above it.
*a*⁸. Fore wing of male with the area from end of cell to termen hyaline. *caudata*.
*b*⁸. Fore wing of male without hyaline area,
*a*⁹. Abdomen with the blue-black area not irrorated with white *cunigunda*.
*b*⁹. Abdomen with the blue-black area irrorated with white *bari*.
*b*⁶. Abdomen orange with black bands *orsa*.
*c*⁶. Abdomen orange, with subdorsal series of blue spots in male, in female with white spots, the segments dorsally edged with white.
*a*⁷. Abdomen of male with the subdorsal spots well developed, of female with the white spots edged with black. *muzina*.
*b*⁷. Abdomen of male with the subdorsal spots small, of female with the white spots not edged with black *icasia*.
*c*³. Fore wing entirely white *eridanus*.
*b*². Fore wing pale ochreous with series of large black-edged olive-brown spots *cotyora*.
*c*². Fore wing with the ground-colour grey to pale olive-brown.
*a*³. Fore wing with dark spots edged with black and white *indecisa*.
*b*³. Fore wing with the spots not darker than the ground-colour and edged with white only *albiscrupta*.
*c*³. Fore wing with obscure dark spots on costa only. *anomala*.

1908. *Ecpantheria nigriplaga*. (Plate XLVII. fig. 13.)

Ecpantheria nigriplaga, Wlk. iii. 692 (1855); Kirby, Cat. Het. p. 215.

Ecpantheria obesa, Wlk. iii. 695 (1855).

♂. Head and thorax white tinged with fawn; palpi black and white; frons metallic blue; antennæ black; tegulæ, patagia, pro-meso- and metathorax with fuscous annuli, a yellow bar and blue

tuft at extremity; pectus fuscous and blue at sides; legs white banded with black, fore coxæ with blue patches; abdomen crimson banded with blue-black, the 1st segment brown, lateral series of black spots, the ventral surface white with sublateral and ventral black spots, anal tuft yellowish, blue at middle and black at sides above. Fore wing white, tinged with pale brown; curved subbasal, antemedial, medial, postmedial, subterminal, and almost terminal series of small black spots; three spots just beyond the cell. Hind wing brownish white, with two black spots on costa, small discoidal and subapical spots, and black patches on inner area near base and on tornal lobe, which is very large.

♀. Wings rather darker; fore wing with whitish centres to the spots; hind wing with subterminal series of whitish-centred spots.

Hab. JAMAICA (*Gosse*), 4 ♂ type, 1 ♀ type *obesa*. *Exp.*, ♂ 46, ♀ 80 millim.

1909. *Ecpantheria læta*.

Ecpantheria læta, Wlk. iii. 696 (1855); Kirby, Cat. Het. p. 217.

Ecpantheria braziliensis, Oberth. Ét. Ent. vi. p. 111, pl. 19. ff. 2, 3, 6 (1881).

Ecpantheria præclara, Oberth. Ét. Ent. vi. p. 111, pl. 19. f. 1 (1881); Kirby, Cat. Het. p. 217.

♂. Head and thorax white; palpi, frons, and antennæ blue-black; neck yellow; tegulæ, patagia, meso- and metathorax with black patches, elongate on patagia and mesothorax; pectus black at sides; fore coxæ and bands on legs blue-black; abdomen orange, with dorsal series of blue-black bands and lateral series of spots, the ventral surface white with ventral black points and bands at base and extremity. Fore wing white, with two subbasal black-edged



Fig. 161.—*Ecpantheria læta*, ♂. 1.

olive-brown spots; an antemedial curved series of small spots; a medial series of large spots, slightly angled in cell; a discoidal bar; a postmedial series of small spots, the one on costa larger, angled at vein 4, then incurved; a subterminal series of large irregular spots, those above veins 3 and 4 smaller, the one below vein 2 conjoined to one of the terminal series which towards apex form short streaks on each side of the veins. Hind wing: costal area white and

orange with four black spots; a discoidal spot; the terminal area beyond the cell hyaline; the inner area orange, with black streaks below the cell and on vein 1, and mark on outer part of tornal lobe, which is large.

♀. Abdomen with the ventral surface yellow, with blue-black bands; fore wing with the spots often edged with yellow, two spots beyond lower angle of cell; hind wing black, with orange markings on costa and in cell; the termen orange with some black spots.

Hab. VENEZUELA, 1 ♂, 3 ♀, type; BRAZIL. *Exp.*, ♂ 50, ♀ 66 millim.

*1910. *Ecpantheria ochreator*.

Ecpantheria ochreator, Feld. Reis. Nov. pl. 101. f. 2 (1874); Kirby, Cat. Het. p. 217.

♀. Head and thorax yellowish white; palpi, frons, and antennæ black-brown; tegulæ and patagia black-brown with yellowish edges; meso- and metathorax with medial black-brown patches; pectus and legs black-brown; abdomen orange, with dorsal series of black-brown spots becoming short bands towards extremity, the ventral surface with black-brown bands. Fore wing creamy white; the veins, discal and submedian folds orange; a dark spot at base; a subbasal dark olive-brown patch from costa to vein 1; an ante-medial maculate line angled at middle of cell, the costal spot wedge-shaped; a medial band angled on median nervure; linear spots before and beyond the discocellulars; a postmedial maculate line, the costal spot wedge-shaped, excurved between veins 5 and 3, where the spots are small, then oblique; a subterminal series of irregular patches, the spot below vein 4 small, and the two patches between vein 3 and inner margin extending to termen; elongate spots on each side of the veins towards apex and a patch from above vein 4 to above 2. Hind wing orange-yellow; a medial series of irregular black spots; a comma-shaped discoidal spot, reduced to two small spots on left side; a postmedial line between vein 4 and submedian fold and a point below vein 1; subterminal spots below costa, on vein 5 and two towards tornus; small spots on termen at veins 6 and 4.

Hab. GUATEMALA (*Salvin*), 1 ♀ type † in Coll. Rothschild. *Exp.* 60 millim.

1911. *Ecpantheria magdalenæ*.

Ecpantheria magdalenæ, Oberth. Ét. Ent. vi. p. 111, pl. 18. ff. 5, 8 (1881); Kirby, Cat. Het. p. 216.

♂. Head and thorax white; palpi, frons, and antennæ black-brown; patches on tegulæ, patagia, meso- and metathorax brown with a bluish gloss; pectus brown at sides; legs black and white; abdomen orange, with dorsal brown bands and patch at base, lateral series of black points, the ventral surface white with dark patch before extremity. Fore wing white; subbasal black-edged olive-

brown spots on costa and below cell; an antemedial spot on costa and two points below the cell; a medial series of spots, angled on median nervure; a small discoidal spot; a postmedial point below costa and three between vein 3 and inner margin; a subterminal series of spots interrupted above vein 4, the spot below vein 4 extending to termen; a terminal series of spots from apex to vein 3. Hind wing orange; the area from near base to termen on each side of median nervure hyaline; a discoidal black point and a subterminal point below vein 2; an elongate brown patch on the tornal lobe, which is very large.

♀. Abdomen with the dorsal bands more developed, the terminal segment dark with two orange streaks; fore wing with two small spots beyond lower angle of cell, the antemedial, postmedial, and terminal series more developed; hind wing black-brown, with three orange spots on costa and short bar before apex, the termen orange from vein 4 to tornus, with two dark spots on it.

Hab. COLOMBIA, Bogotá (*Buckley*), 1 ♂. *Exp.*, ♂ 46, ♀ 64 millim.

1912. *Ecpantheria leucarctioides*.

Ecpantheria leucarctioides, Grote & Rob. Ann. Lyc. N. Y. viii. p. 369, pl. 14. ff. 3, 4 (1867); Kirby, Cat. Het. p. 217.

Ecpantheria tenella, H. Edw. Papilio, iv. pp. 15, 41 (1884).

Ecpantheria trebula, Druce, Biol. Centr.-Am., Het. i. p. 97, pl. 10. f. 3 (1884); Kirby, Cat. Het. p. 215.

♂. Head and thorax white; palpi, frons, and antennæ black; tegulæ with black points, patagia with large spots; mesothorax with pair of spots, metathorax with one spot; pectus and legs white, the former with black stripes at sides, the latter banded with black; abdomen orange, with dorsal and lateral series of black spots, the former expanding at base, the ventral surface whitish, with black spot on terminal segment. Fore wing white; subbasal black-edged olive-brown spots on costa and below the cell; an antemedial series of four small spots, slightly angled in cell; a medial series of spots angled on median nervure; a discoidal spot; a postmedial series of small spots, angled at vein 4, then incurved; an oblique subterminal series bent outwards to tornus; a terminal series, the spots below veins 4 and 2 larger. Hind wing semihyaline white, the inner half orange with black patch on tornal lobe, which is large.

Ab. 1. *trebula*. Uniformly tinged with yellow.—Guatemala.

♀. Abdomen with the dorsal spots much larger, the terminal half of ventral surface black; fore wing with two spots beyond lower angle of cell; hind wing black, with orange spots on costal area, in cell, and on termen.

Hab. MEXICO, Jalapa (*Trujillo*), 2 ♂, Coatepec (*Brooks*), 1 ♂, 1 ♀, Tabasco (*H. H. Smith*), 1 ♂; GUATEMALA (*Champion*), 1 ♂ type *trebula*, Godman-Salvin Coll. *Exp.*, ♂ 44, ♀ 62 millim.

1913. *Ecpantheria decora*.

Ecpantheria decora, Wlk. iii. 693 (1855); Druce, Biol. Centr.-Am., Het. i. p. 97, pl. 10. f. 6 (1884); Kirby, Cat. Het. p. 215.

Ecpantheria cyaneicornis, Grote, Proc. Ent. Soc. Philad. vi. p. 314 (1867); Kirby, Cat. Het. p. 217.

Ecpantheria haitensis, Oberth. Ét. Ent. vi. p. 109, pl. 15. ff. 5, 7 (1881).

♂. Head and thorax white; palpi above, sides of frons, and a bar above it blue-black; antennæ black; tegulæ, patagia, pro- and metathorax with small paired annuli, mesothorax with dorsal annulus; fore coxæ, femora above, hind tibiæ, and the tarsi black, fore and mid tibiæ with annulate marks; abdomen orange, the 1st segment brown and white, subdorsal blue-black bars conjoined by white lines on dorsum, the anal tuft white with medial and lateral stripes, a lateral series of black spots, the ventral surface white with ventral series of black points. Fore wing with black-edged subbasal spots on costa and below cell, antemedial, medial, postmedial, and subterminal series of spots, the spots on costa rather triangular, the antemedial series curved, the medial series with small spot at upper angle of cell and elongate spot at lower angle with some metallic blue on them, the postmedial and subterminal series excurved at vein 5; a terminal series of small spots, those below apex and above veins 5 and 1 reduced to points. Hind wing white, with blue-black fascia on inner area and patch on tornal lobe, which is large; underside with triangular black medial and postmedial spots on costa and small spots at base and discoidal lunule.

♀. Fore wing with the series of spots larger; hind wing with four small annuli beyond lower angle of cell; some small subterminal ocelli on costal half and four larger ones towards tornus; four small spots on termen between vein 3 and apex.

Hab. MEXICO, Jalapa (*Hoega*), 1 ♂, Godman-Salvin Coll.; CUBA; HAITI (*Tweedie*), 1 ♂ type. *Exp.*, ♂ 54, ♀ 62 millim.

1914. *Ecpantheria persola*.

Ecpantheria persola, Möschl. Abb. Senck. Ges. xiv. p. 33, f. 15 (1886); Kirby, Cat. Het. p. 217.

♂. Head and thorax white; palpi and frons blue-black, the former white below; antennæ black; mesothorax with a pair followed by a single blue-black spot, metathorax with a pair of larger spots; pectus and fore coxæ with blue-black patches; legs banded with blue-black, the tarsi black with white spots; abdomen yellow with black at base and sides and on dorsum from 3rd to terminal segment, a ventral series of small spots. Fore wing white, with blue-black subbasal spots on costa and below cell; an antemedial series angled on median nervure, the spot on costa larger and a pair of points above vein 1; a medial series with bar-shaped spot from costa and wedge-shaped spot in lower angle of cell, the series then oblique; a spot beyond discocellulars; a postmedial series with

large irregular spots on costa, excurved between veins 5 and 3, then incurved; a subterminal series oblique from costa to vein 6, the spot above vein 5 elongate and no spot above vein 3; a terminal series, the spots above veins 1 and 6 larger. Hind wing orange-yellow; a blackish spot above end of cell, an elongate spot in lower angle and two points beyond the angle; two postmedial spots in submedian interspace and an obscure mark on inner margin near base; an oblique series of four spots from below costa near apex to above vein 4 near termen; a terminal series of spots with a bar above them at vein 2; the tornus slightly produced.

♀. Tegulæ and patagia sometimes with spots; abdomen with paired dorsal bars or dorsal bands. Fore wing with the spots larger, but varying much in size and with fewer or extra spots in the series. Hind wing with the spots larger; the interspaces from above vein 5 to submedian fold more or less filled by black streaks.

Hab. JAMAICA, Cinchona (*W. Fawcett*), 1 ♀, St. Ann (*F. G. Martyn*), 1 ♀. *Exp.*, ♂ 66, ♀ 96 millim.

1915. *Ecpantheria gaujoni*.

Ecpantheria gaujoni, Dognin, Le Nat. 1889, p. 210; id. Lép. Loja, p. 50, pl. 4. ff. 11, 12; Kirby, Cat. Het. p. 217.

♂. Head and thorax white; palpi above and frons blue-black; antennæ black; patches on tegulæ, patagia, and stripes on thorax irrorated with black, and edged by fine black lines; legs banded with black; abdomen blue-black with lateral orange stripes, the ventral surface white. Fore wing white, strongly irrorated with fuscous, the area from near base to termen between subcostal nervure and vein 1 hyaline; five black-edged spots on costa and two on middle of inner margin. Hind wing hyaline white, with a few grey scales on inner area; underside with the costa white with three black spots on it; the tornal lobe slightly developed.

♀. Fore wing white, thickly irrorated with fuscous throughout; a dark discoidal lunule; hind wing semihyaline white, suffused with fuscous; an obscure waved white subterminal line from costa to vein 2, with a black terminal line beyond it, then becoming terminal.

Hab. ECUADOR, Loja, 1 ♂, 1 ♀. *Exp.*, ♂ 50, ♀ 64 millim.

1916. *Ecpantheria cincelini*.

Ecpantheria kinkelini, Burm. Descr. Rep. Arg. v., Atlas, p. 59 (1880); Oberth. Ét. Ent. vi. p. 110, pl. 18. ff. 1, 6 (1881); Kirby, Cat. Het. p. 216.

♂. Head black, the vertex pinkish white; tegulæ and patagia black, irrorated with grey and edged with pinkish white; thorax pinkish white, two pairs of conjoined grey-irrorated black patches; pectus and legs pinkish white, the former with black stripes, the latter with black bands on tibiæ; the tarsi black with white points; abdomen black irrorated with grey, a dorsal orange stripe on segments 4, 5, 6, and a maculate lateral stripe, the last segment edged with white, the ventral surface white with sublateral and ventral series of black spots. Fore wing pinkish white, with series

of black-edged grey spots; a spot at base; a curved maculate subbasal band from costa to vein 1; an antemedial maculate band angled on median nervure, then oblique; a medial series with elongate spot in lower end of cell, the two spots above inner margin large or each bifid; some irregular marks beyond the discocellulars; a postmedial irregular series from costa to submedian fold, the spots above veins 3, 4, and 6 displaced outwards; a subterminal series, with the spot above vein 5 elongate, and the one below it somewhat triangular; a subterminal series, with the spots above veins 5, 6, 7 elongate; the terminal area sparsely scaled from costa to vein 2. Hind wing white, with more or less black suffusion on inner area; a blackish spot in cell and one at each angle; two points below costa near apex, and points on termen above and below vein 6; a subterminal series of spots, with the spot on vein 5 large; a spot on tornal lobe; the terminal and subterminal spots may be partly or entirely absent, except the spot on tornal lobe, which is slightly produced.

Hab. BRAZIL, São Paulo, Castro Paraña, 1 ♂. *Exp.* 60 millim.

1917. *Ecpantheria peruvensis*, n. sp. (Plate I.I. fig. 10.)

♂. Head and thorax white, tinged with pink; frons and antennæ blue-black; tegulæ, patagia, pro- meso- and metathorax with black-edged grey spots; the fore coxæ, fore femora above, bands on fore and mid tibiæ, the fore tarsi and bands on mid and hind tarsi, and below shoulders blue-black; abdomen dorsally orange, with the base clothed with black and white hair, the other segments with black-edged grey-irrorated blue bands, the terminal segment with a similar patch, lateral black lines, the ventral surface white with sublateral and ventral series of black and grey spots. Fore wing white tinged with pink, the area from end of cell to termen at apex and tornus hyaline; a small grey and black spot at base; subbasal black-edged grey spots on costa and below cell; a curved antemedial series of four spots; an oblique medial series of six spots; a postmedial spot on costa and four between vein 3 and inner margin; subterminal spots on costa and inner margin, and a terminal series of striæ. Hind wing hyaline; the inner area white, with black patch from near base to beyond middle, and black patch on tornal lobe.

Hab. PERU, R. Limimbare, Legrario, 1200 feet (*Simons*), 1 ♂ type. *Exp.* 72 millim.

1918. *Ecpantheria deflorata*.

Bombyx deflorata, Fabr. Syst. Ent. p. 582 (1775); Kirby, Cat. Het. p. 907. *Noctua scribonia*, Stoll, Suppl. Cram. v. pl. 41. f. 3 (1790); Riley, Rep. Ins. Missouri, iv. p. 141, ff. 63, 64; Stretch, Zyg. & Bomb. N. Am. p. 174, pl. 7. ff. 20, 21.

Phalæna oculatissima, Abbot & Smith, Lep. Georg. ii. pl. 69 (1797); Dunc. Nat. Libr., Exot. Moths, v. p. 169, pl. 20. f. 4; Oberth. Et. Ent. vi. p. 110, pl. 17. f. 5.

Bombyx chryseis, Oliv. Enc. Méth. v. p. 58 (1790).

Bombyx cuneigunda, Beauv. Ins. Afr. Am. pl. 22. f. 4 (1824), nec Stoll.

Ecpantheria confluens, Oberth. Ét. Ent. vi. p. 110, pl. 17. f. 3 (1881).

Ecpantheria denudata, Sloss. Ent. Am. iii. p. 212 (1888).

♂. Head and thorax white; palpi and frons metallic blue; antennæ black; tegulæ and patagia with blue-black spots, sometimes filled in with white; pro- meso- and metathorax with paired metallic-blue spots; pectus metallic blue at sides; legs white banded with metallic blue; abdomen metallic blue above, the base brown, dorsal and lateral series of orange spots sometimes connected by slight segmental lines, the ventral surface white with sublateral and ventral series of blue-black points. Fore wing white, with subbasal, antemedial, medial, postmedial, subterminal, and terminal series of blue-black annuli; an elongate spot in lower end of cell, a spot just beyond discocellulars, and often two beyond lower angle. Hind wing white; some blackish hair on middle of inner area, and a spot or streak on the tornal lobe, which is large; often a discoidal point and some on termen towards apex and tornus.

Ab. 1. *confluens*. Fore wing with the antemedial and medial series of annuli conjoined, those in cell forming elongate streaks.

Ab. 2. *denudata*. Hind wing with the area beyond end of cell hyaline.

Hab. U.S.A., 2 ♂, 2 ♀, New York, 1 ♂, 1 ♀, Texas, 1 ♂, Georgia, 1 ♀. *Exp.*, ♂ 70, ♀ 82 millim.

Egg. Dyar, Can. Ent. xxiii. p. 106 (1891); Pack. Ann. N. Y. Acad. Sci. viii. p. 81 (1893).

Nearly spherical, flattened at base, minutely punctured; yellowish pearly grey: diam. .8 mm.

Stage 1. Head light brown, paler in front; ocelli large, black; body whitish, somites 4, 5, 8, 9, 10 brownish; warts concolorous; bristles black.

Stage 2. Mouth-parts brown; body whitish tinged with reddish-brown; warts i., ii. on somites 4, 5 and 8-10 black; hair black.

Stage 3. Head semitransparent brownish; maxillæ reddish; cervical shield and legs black; body reddish brown, the dorsal warts on somite 3 and somites 4, 5 and 7-10 in the subdorsal area black; a white dorsal line; bristles spiny, black.

Stage 4. Head brownish, mouth pale; body reddish orange, with a paler dorsal line; somites 4, 5 and 8-10 black, the latter on subdorsal area only; most of the warts black.

Stages 5-7. Head brown, blackish in front; ocelli and inner side of jaws black; labrum and antennæ pinkish; body black, with vermilion bands; a faint dorsal line.

Stage 8. Head brownish black, with pale line in suture on vertex and pale lateral spots; labrum and antennæ pinkish; jaws brown; cervical shield with pale line; body velvety black, with vermilion bands between the somites, except thoracic segments; spiracles dark orange; bristles spiny, sharp, black: length 85-95 mm.

Food-plants very various, principally *Euphorbia cyathophora* and *Ricinus communis*.

Cocoon. A thin network of yellowish silk.

Subsp. *quitensis*, Oberth. Ét. Ent. vi. p. 110, pl. 17. ff. 1, 2 (1881); Kirby, Cat. Het. p. 216.

Ecpantheria quitensis, ab. *confluens*, Oberth. Ét. Ent. vi. pl. 17. f. 3 (1881).

Abdomen with hardly a trace of dorsal orange spots; the spots of thorax filled in with black and also those of fore wing in female.

Hab. ECUADOR, Quito, types † ♂ ♀ in Coll. Oberthür.

1919. *Ecpantheria abdominalis*.

Ecpantheria abdominalis, Wlk. xxxi. 300 (1864); Kirby, Cat. Het. p. 216.

Ecpantheria proxima, Oberth. Ét. Ent. vi. p. 108, pl. 15. f. 9 (1881);

Kirby, Cat. Het. p. 215.

Ecpantheria detecta, Oberth. Ét. Ent. vi. p. 109, pl. 15. f. 8 (1881); Kirby, Cat. Het. p. 215.

Ecpantheria detectiva, Oberth. Ét. Ent. vi. pl. xvii. f. 4 (1881); Kirby, Cat. Het. p. 216.

Ecpantheria annexa, Oberth. Ét. Ent. vi. p. 108, pl. xiv. f. 4 (1881); Kirby, Cat. Het. p. 215.

Ecpantheria aramis, Oberth. Ét. Ent. vi. p. 110, pl. xviii. ff. 2, 3 (1881); Kirby, Cat. Het. p. 216.

♂. Head and thorax white; palpi above, frons, and antennæ black; tegulæ, patagia, pro- meso- and metathorax with black annuli filled in with greyish; legs with the fore coxæ, ends of femora, and tarsi blue-black; abdomen blue-black, strongly irrorated with white scales, the hair on dorsum brown and grey, some dorsal orange spots and lateral stripes, the ventral surface white with sublateral and ventral series of black points. Fore wing white, the area from end of cell to termen somewhat hyaline; subbasal, ante-medial, medial, postmedial, and subterminal series of black-edged greyish annuli, the first three angled on median nervure, the last two bent outwards at vein 5, and the last with the spot above vein 5 elongate; a terminal series of small black and grey spots. Hind wing semihyaline white; a blackish streak on inner area and spot on tornal lobe, which is moderately produced; some subterminal and terminal black points towards apex; underside with ante- and postmedial bifid spots on costa.

Ab. 1. *detecta*. Hind wing wholly white; abdomen with pair of orange spots on 3rd segment and irregular dorsal fascia on medial segments with dark spots on it.

♀. Abdomen with more white irroration on the dark area, a dorsal yellow maculate fascia except at base and extremity, the sublateral and ventral spots in the form of black-edged grey annuli. Fore wing with no hyaline area; the series of spots much larger; a lunule beyond discocellulars and two spots beyond lower angle of cell; the subterminal series of spots with their outer half fuscous. Hind wing with fuscous spots in and just beyond the cell, the whole area below the cell fuscous, coalescing with the subterminal series of large conjoined spots; three small spots on termen between veins 3 and 6.

Hab. BRAZIL, Pará, Minas Gerães, Rio Janeiro, 1 ♂, 1 ♀ type. *Exp.*, ♂ 60, ♀ 78 millim. Types † ♂ *proxima*, *annexa*, *detectiva*, ♀ *aramis* in Coll. Oberthür; both specimens figured as *aramis* being females.

1920. *Ecpantheria alpha*.

Ecpantheria alpha, Oberth. Ét. Ent. vi. p. 108, pl. xiv. f. 2 (1881); Kirby, Cat. Het. p. 215.

Ecpantheria orbiculata, Druce, Biol. Centr.-Am., Het. ii. p. 376 (nec Oberth.).

♂. Head and thorax white; palpi above, frons, and antennæ black; tegulæ, patagia, and thorax with black-edged irregular annuli, two blue spots on metathorax; fore femora above, tibiæ at base and extremity, and tarsi blue-black; abdomen blue-black, the hair on base of dorsum black-brown, dorsal and lateral series of orange spots, the extremity and ventral surface white, with sub-lateral and ventral series of black spots. Fore wing white, with subbasal, antemedial, medial, postmedial, and subterminal series of black-edged annulate spots, the first two angled on median nervure, the last two bent outwards at vein 5, the last with the spot above vein 5 elongate; the spots on costa sometimes filled in with black; a black lunule beyond discocellulars; a small terminal series of black spots. Hind wing semihyaline white; a black-brown fascia on inner area and tornal lobe, which is well developed; a discoidal point and a subterminal point above vein 4, an oblique streak above and below vein 2; four spots on termen towards apex; underside with ante- and postmedial spots on costa.

Ab. 1. Thorax with the ocellate spots reduced on tegulæ to points; abdomen with dorsal orange lines on 3rd and 5th segments instead of the series of spots.

♀. Abdomen with the extremity black; fore wing with the spots larger, two spots beyond lower angle of cell; hind wing with the cell and area below and just beyond lower angle fuscous black; a subterminal series of spots with whitish centres, except on costal area.

Hab. MEXICO, Jalapa (*Trujillo*), 2 ♂, 1 ♀, Godman-Salvin Coll. *Exp.*, ♂ 62, ♀ 88 millim.

*1921. *Ecpantheria albicornis*.

Ecpantheria albicornis, Grote, Proc. Ent. Soc. Philad. v. p. 239, pl. 4. f. 4 (1865); Kirby, Cat. Het. p. 215.

White; palpi and frons blackish; antennæ white above; tegulæ, patagia, pro- meso- and metathorax with brown annuli; pectus white and brown; legs white, the femora, tibiæ, and tarsi with brown spots; abdomen blue-black with some brown and white hair at base, the subbasal and medial segments with narrow orange anterior bands, sometimes reduced to obscure dorsal spots, the ventral surface white with some brown scales. Fore wing with six series of small brown annuli, the subbasal angled at median nervure, the antemedial curved, the medial angled at lower angle of cell and followed by a black spot beyond upper angle of cell, the postmedial angled below vein 5. Hind wing thinly scaled; some prominent annulate marks on costa and less distinct marks in cell and on discocellulars;

a postmedial series of small spots angled at vein 4, then incurved, a curved subterminal series of annuli and a terminal series between veins 7 and 3; male sometimes with the marks obsolete except on costa and termen; the tornus slightly produced.

Hab. CUBA. *Exp.*, ♂ 40, ♀ 50 millim. This species is unknown to me.

1922. *Ecpantheria ocularia*.

Bombyx ocularia, Fabr. Syst. Ent. p. 564 (1775); Kirby, Cat. Het. p. 216 (part).

Ecpantheria cyaneator, Wlk. xxxi. 299 (1864); Kirby, Cat. Het. p. 215.

Ecpantheria columbina, Oberth. Ét. Ent. vi. p. 110, pl. 16. ff. 3, 4, 7 (1881).

Ecpantheria distans, Oberth. Ét. Ent. vi. pl. 17. f. 6 (1881); Kirby, Cat. Het. p. 216.

♂. Head and thorax white; palpi, frons, and antennæ blue-black; neck yellow; tegulæ, patagia, and thorax with paired black-edged annulate marks sometimes with greyish centres; metathorax with pair of blue-black points; pectus at sides and bands on legs blue-black; abdomen black, shot with brilliant blue, sometimes with slight orange dorsal segmental lines, lateral series of oblique orange striæ, the anal tuft and ventral surface white, with sublateral and ventral series of black points. Fore wing white, the area from end of cell to apex and tornus hyaline with short black streaks on the veins; large subbasal black-edged greyish spots on costa and below the cell; antemedial and medial curved series of similar spots and postmedial and subterminal spots on costal and inner areas; cilia with black striæ. Hind wing hyaline, the costal and inner areas white; three black-edged greyish annuli on costa and usually a black spot on tornal lobe, which is moderately developed.

♀. Thorax with the blue spots replaced by ocellate spots. Fore wing without the hyaline area; a black-edged discoidal lunule, the postmedial and subterminal series of spots complete, the former bent outwards at vein 5, the latter with wedge-shaped spot above vein 5; a terminal series of annuli, the spots above veins 5 and 6 elongate and irregular. Hind wing white, with diffused black fasciæ in and below cell and on inner area, a subterminal series of greyish black-edged annuli larger towards tornus, six black spots on termen between veins 2 and 7.

Ab. 1. ♂. Mesothorax with blue between the annuli; fore wing with slight traces of the hyaline area; the series of spots smaller, complete postmedial, subterminal, and terminal series.

♀. Abdomen with dorsal series of orange points; fore wing with the series of spots reduced; hind wing with the fuscous streaks below the cell and on inner area much reduced.

Hab. COLOMBIA, Bogotá (*Stevens*), 1 ♂, 2 ♀ type *cyaneator*, (*Buckley*) 1 ♀. *Exp.*, ♂ 66, ♀ 86 millim. Type ♂ ♀ *distans* in Coll. Oberthür.

*1923. *Ecpantheria robusta*.

Ecpantheria robusta, Dognin, Lép. Loja, p. 50, pl. 4. f. 10 (1891); Kirby, Cat. Het. pp. 215, 907.

♂. Head and thorax white; palpi and frons blue, the latter white below; antennæ blue-black; tegulæ, patagia, and pro- and mesothorax with large, paired, black-edged marks; metathorax with black-edged blue spots; legs white spotted with black, the tarsi black; fore coxæ blue; abdomen with the first two segments black edged with blue, the other segments brilliant blue with dorsal orange bands except towards extremity and oblique lateral marks, the anal tuft white, the ventral surface white with series of black spots. Fore wing white, with the area from middle of cell to apex and tornus hyaline; black and blue marks at base; subbasal black-edged wedge-shaped marks on costa and below cell; an antemedial series of lunules, the one in cell small; two pairs of medial lunules on inner area; medial and postmedial black spots on costa and a short streak on inner margin near tornus. Hind wing hyaline, the inner area below vein 2 white with a diffused black fascia on it joined by a patch below origin of vein 2; a patch on lobe at tornus, which is slightly produced.

Hab. ECUADOR, Loja. *Exp.* 76 millim. Type † in Coll. Dognin.

1924. *Ecpantheria caudata*.

Ecpantheria caudata, Wlk. iii. 689 (1855); Druce, Biol. Centr.-Am., Het. i. p. 96; Kirby, Cat. Het. p. 215.

Ecpantheria bolivar, Oberth. Ét. Ent. vi. p. 107, pl. 13. f. 1 (1881); Kirby, Cat. Het. p. 214.

Ecpantheria mexicana, Oberth. Ét. Ent. vi. p. 109, pl. 15. ff. 1, 3 (1881).

♂. Head and thorax white; palpi above, at sides, and a bar above frons blue-black; antennæ black; tegulæ, patagia, and thorax with black-edged annulate spots; legs banded with black; abdomen blue-black with brown and white hair at base, a dorsal series of more or less developed orange bands often conjoined to the lateral fascia, ventral surface white. Fore wing white, the area from origin of vein 2 to termen, on which it extends from apex to tornus, hyaline; subbasal black-edged annulate spots on costa and below cell, a curved antemedial series and medial, postmedial, and subterminal series interrupted on the hyaline area; cilia chequered black and white. Hind wing hyaline, the inner area white; the tornal lobe well-developed.

♀. Abdomen with dorsal series of orange spots and sublateral and ventral series of black spots ending in streaks. Fore wing without the hyaline area, the series of spots complete, three small spots beyond the cell and a terminal series. Hind wing white, with blackish streak on inner area and spot on lobe, terminal black spots from apex to below vein 3 and a subterminal spot below vein 2.

Hab. MEXICO, 1 ♂ type (*Hoega*), 1 ♀, Coatepec (*Brooks*), 1 ♂;

COSTA RICA (*Underwood*), 2 ♂; HONDURAS (*Blancaneaux*), 1 ♂; NICARAGUA (*Belt*), 1 ♂, Godman-Salvin Coll.; COLOMBIA, 1 ♂. *Exp.*, ♂ 56, ♀ 86 millim.

1925. *Ecpantheria cunigunda*.

Bombyx cunigunda, Stoll, Pap. Exot. iv. pl. 344, D, E (1781); Kirby, Cat. Het. p. 215.

Ecpantheria ganglio, Oberth. Ét. Ent. vi. p. 107, pl. 13. f. 5 (1881); Kirby, Cat. Het. p. 215.

Ecpantheria cayennensis, Oberth. Ét. Ent. vi. p. 107, pl. 14. ff. 1, 3 (1881); Kirby, Cat. Het. p. 215.

Ecpantheria cayennensis, var. *decipiens*, Oberth. Ét. Ent. vi. pl. 15. f. 6 (1881).

♂. Head and thorax white; palpi above, a spot on frons, and antennæ black; tegulæ, patagia, pro- meso- and metathorax, and legs with annulate black marks; abdomen orange with the 1st segment brown, dorsal blue-black bands conjoined by subdorsal expansions enclosing dorsal orange spots, lateral blue-black fasciæ, the ventral surface white with small sublateral black annuli on terminal segments, anal tuft white. Fore wing white, with black-edged subbasal annuli on costa and below cell; antemedial, medial, postmedial, and subterminal series of annuli, the spots towards costa filled in with black, the postmedial series bent outwards below vein 5; a lunule just beyond discocellulars; a terminal series of small spots. Hind wing white, with fuscous streak on vein 1 and spot on tornal lobe, which is well developed.

♀. Abdomen with the dorsal bands not conjoined, streaks on subterminal segment uniting in a patch on terminal. Fore wing with the spots larger, annulate towards costa and on termen, two spots beyond lower angle of cell. Hind wing with black-edged greyish medial band from costa to median nervure, where it is conjoined to a streak in lower end of cell and discoidal lunule; a post-medial spot on costa; more or less developed black diffused markings on inner area; typically some small spots beyond lower angle of cell and a subterminal series small towards costa or reduced to spots between vein 3 and tornus; four small terminal spots between apex and vein 3.

Ab. 1. *decipiens*. Abdomen with the dorsal bands reduced to subdorsal patches, the subterminal streaks reduced.

Hab. CAYENNE; SURINAM; BRAZIL, Rio Janeiro, Rio Grande do Sul (*Ihering*), 1 ♀, St. Catherina. *Exp.*, ♂ 50, ♀ 82 millim.

1926. *Ecpantheria bari*.

Ecpantheria bari, Oberth. Ét. Ent. vi. p. 108, pl. 14. f. 5 (1881); Kirby, Cat. Het. p. 215.

Ecpantheria orbiculata, Oberth. Ét. Ent. vi. p. 108, pl. 14. f. 7 (1881); Kirby, Cat. Het. p. 215.

Ecpantheria dubiosa, Oberth. Ét. Ent. vi. p. 108, pl. 14. f. 6 (1881); Kirby Cat. Het. p. 215.

♂. Head and thorax white; palpi above, sides of frons, and a

band above it black; tegulæ, patagia, pro- meso- and metathorax with black-edged greyish patches; legs with bluish-tinged brown patches; abdomen blue-black, strongly irrorated with white scales, the hair at base brown and white, dorsal yellow spots on medial segments and a lateral series, the extremity and ventral surface white, some sublateral and ventral dark spots. Fore wing white, the area between end of cell and termen semihyaline; subbasal, antemedial, medial, postmedial, and subterminal series of greyish black-edged annuli, the spots on costa filled in with black, and the two last series smaller; a terminal series of small black spots. Hind wing semihyaline white, with blackish fascia on inner area and spot on tornal lobe, which is large; underside with ante- and postmedial spots on costa.

♀. Abdomen sometimes with the orange spots expanding laterally into dorsal bands. Fore wing without the semihyaline area; the spots much larger, the spots on costa not filled in with black; the subterminal spots large, elongate towards costa, and conjoined in places to the terminal series of large spots. Hind wing with some fuscous below end of cell and spots in and beyond the cell, a subterminal series of spots, large towards tornus, and the four below costa with spots beyond them on termen.

Ab. 1. *dubiosa*. Hind wing with the whole inner area fuscous, extending into the cell, the subterminal spots filled in with fuscous.

Hab. CAYENNE, type† ♀ *bari* in Coll. Oberthür; BRAZIL, Rio Janeiro (*Dohrn*), 2 ♂, 3 ♀. *Exp.*, ♂ 64, ♀ 74 millim.

*1927. *Ecpantheria orsa*.

Noctua orsa, Cram. Pap. Exot. ii. pl. 143, F (1777); Kirby, Cat. Het. p. 215.

♂. White; antennæ blackish; tegulæ, patagia, and thorax with brown annuli, the tegulæ orange in front; abdomen orange with blackish bands, the last two segments with the ground-colour white. Fore wing with subbasal brown-edged annulus on costa and two obliquely placed on inner area; an antemedial annulus on costa filled in with brown and three annuli on inner area; three conjoined annuli filled in with brown on discocellulars, with a short streak on costa above them, and four annuli below end of cell; a short postmedial streak on costa, and a curved series of six annuli between veins 6 and 1; three subterminal annuli between costa and vein 4 and three points between vein 3 and inner margin; a series of points on termen. Hind wing with a dark streak on inner margin; the tornus moderately produced.

Hab. SURINAM. *Exp.* 50 millim. This species is unknown to me.

1928. *Ecpantheria muzina*.

Ecpantheria muzina, Oberth. Ét. Ent. vi. p. 105, pl. 12. f. 4 (1881); Kirby, Cat. Het. p. 214.

Ecpantheria albicollis, Oberth. Ét. Ent. vi. p. 105, pl. 12. f. 5 (1881); Kirby, Cat. Het. p. 214.

- Epantheria thiemei*, Oberth. Ét. Ent. vi. p. 105, pl. 12. f. 6 (1881); Kirby, Cat. Het. p. 214.
Epantheria abscondens, Oberth. Ét. Ent. vi. p. 106, pl. 12. f. 7 (1881); Kirby, Cat. Het. p. 214.
Epantheria depauperata, Oberth. Ét. Ent. vi. p. 106, pl. 12. f. 8 (1881); Kirby, Cat. Het. p. 214.
Epantheria garzoni, Oberth. Ét. Ent. vi. p. 107, pl. 13. f. 3 (1881); Kirby, Cat. Het. p. 214.
Epantheria xanthonota, Oberth. Ét. Ent. vi. p. 107, pl. 13. f. 6 (1881); Kirby, Cat. Het. p. 215.
Epantheria yucatanensis, Oberth. Ét. Ent. vi. p. 107, pl. 13. f. 4 (1881); Kirby, Cat. Het. p. 214.
Epantheria sennettii, Lintn. Pap. iv. p. 147 (1884); Kirby, Cat. Het. p. 215.
Epantheria eridane, Druce, Biol. Centr.-Am., Het. i. p. 96 (part.).

♂. Head and thorax white; palpi above and frons at sides and above blue-black; antennæ black; paired black-edged annulate spots on tegulæ, patagia, pro-meso- and metathorax; fore coxæ, femora above, and tarsi blue-black, mid and hind femora and tibiæ at extremities and rings on tarsal joints blue-black; abdomen orange, the hair at base of dorsum white with some black dorsal marks, dorsal series of blue-black spots, the segments being fringed with white on dorsum between them, the blue patches sometimes replaced by white with fine blue lines above them connected dorsally, a large blue patch on terminal segment, the anal tuft and ventral surface white, a lateral line and sublateral and ventral series of points black. Fore wing white, the area from middle of cell to apex and tornus hyaline; subbasal, antemedial, medial, postmedial, and subterminal series of black-edged annulate spots interrupted on the hyaline area. Hind wing hyaline, the inner area and cilia white; fuscous marks sometimes present on middle of inner area and tornal lobe, which is moderately developed.

♀. Frons white with black bar above it; abdomen with subdorsal series of white spots edged with black, the patch on terminal segment white edged with black. Fore wing without the hyaline area, the series of spots large and complete, the medial series with four small spots beyond it at end of cell, the postmedial series bent outwards at vein 5, the subterminal series with wedge-shaped spot above vein 5, a terminal series of annulate spots. Hind wing semihyaline white, usually with more or less developed medial series of fuscous spots on discocellulars and inner area; a subterminal series of irregular spots sometimes reduced to points between vein 2 and tornus, and four or five points on termen from below apex to vein 2.

Hab. U.S.A., Texas; MEXICO, Jalapa (*Godman*), 1 ♀, Misantla (*Godman*), 1 ♀, Orizaba (*Godman*), 1 ♀, Yucatan (*Gaumer*), 2 ♀; GUATEMALA (*Champion*), 1 ♀; COSTA RICA (*Rogers*, *Underwood*, *Van Patten*), 5 ♂, 3 ♀, *Godman-Salvin Coll.*; HONDURAS, 1 ♀; COLOMBIA; VENEZUELA, 1 ♂. *Exp.*, ♂ 60, ♀ 76 millim.

1929. *Ecpantheria icasia*.

Bombyx icasia, Cram. Pap. Exot. ii. pl. 181, E (1777); Kirby, Cat. Het. p. 214.

Bombyx lantanae, Fabr. Ent. Syst. iii. (1) p. 437 (1793).

Hypercompe eridane, Hübn. Samml. ex. Schmett. i. (1827) (nec Cram.); Oberth. Ét. Ent. vi. p. 105, pl. 12. ff. 2, 3; Druce, Biol. Centr.-Am., Het. i. p. 96.

Ecpantheria obliterated, Wlk. iii. 691 (1855).

Ecpantheria simplex, Wlk. iii. 692 (1855).

Ecpantheria guadulpensis, Oberth. Ét. Ent. vi. p. 107, pl. 13. f. 2 (1881); Kirby, Cat. Het. p. 214.

♂. White; frons fuscous, tinged with blue; antennæ black; patagia, pro- meso- and metathorax usually with slight fuscous annuli; fore coxæ with bluish patches, the extremity of tibiæ and tarsi banded with black; abdomen orange, the hair at base of dorsum white with dark tips, subdorsal series of small blue spots, the segments slightly fringed with white between them, the anal tuft and ventral surface white. Fore wing with hyaline patch extending from end of cell to apex and tornus; subbasal, antemedial, medial, postmedial, and subterminal series of small black-edged annulate spots, the first three curved, the last two almost obsolete on the hyaline area, and the 4th incurved below vein 5; traces of a terminal series of black spots. Hind wing hyaline, the inner area white; the tornal lobe slightly developed.

♀. Frons, thorax, and legs unmarked; abdomen with the base and subdorsal spots white; fore wing with the series of spots large; hind wing often with traces of postmedial and subterminal series of annulate spots and some on termen from below apex to vein 3.

Hab. PORTO RICO, 1 ♂; NEVIS, 2 ♂, 1 ♀, types *obliterated* and *simplex*; DOMINICA (*Elliot*), 1 ♂, 1 ♀; GUADALOUPE; TRINIDAD, 1 ♀; SURINAM; COSTA RICA (*Rogers*), 1 ♀; PANAMA, Chiriqui, 1 ♂, Godman-Salvin Coll.; CHILI (*J. J. Walker*), 1 ♀. *Exp.*, ♂ 54, ♀ 76 millim.

*1930. *Ecpantheria eridanus*.

Noctua eridanus, Cram. Pap. Exot. i. pl. 68, G (1775); Oberth. Ét. Ent. vi. p. 105, pl. 12. f. 1; Kirby, Cat. Het. p. 214.

♂. Pure white; abdomen orange except at base and extremity, with series of dorsal segmental white bands. Hind wing with the lobe slightly developed.

Hab. COLOMBIA, Bogotá; SURINAM. *Exp.*, ♂ 50, ♀ 68 millim.

1931. *Ecpantheria cotyora*.

Ecpantheria cotyora, Druce, Biol. Centr.-Am., Het. i. p. 97, pl. 10. ff. 4, 5 (1884); Kirby, Cat. Het. p. 217.

♂. Head and thorax ochreous white; palpi, frons, and antennæ above black; tegulæ and patagia with large grey-brown patches; thorax with a pair of grey-brown stripes diverging at extremity round

two spots on metathorax; pectus at sides and legs black, the latter banded with ochreous, fore femora with orange patches on inner side; abdomen blue-black with lateral orange stripes, the ventral surface ochreous white with sublateral black points and ventral stripe. Fore wing ochreous white, with subbasal series of grey-brown spots angled on median nervure, with a spot beyond them on costa and another in cell; a medial series of large quadrate spots slightly angled on median nervure; seven small spots in and beyond end of cell, with spot above them on costa; a postmedial series of small linear spots from vein 5 to inner margin, angled at vein 5, then incurved; a subterminal series of large spots, the spot above vein 3 elongate, the one below it wedge-shaped and the spot above vein 4 linear; a terminal series of striæ, those towards apex short streaks. Hind wing semihyaline yellowish white, the inner area clothed with orange hair; a fuscous point on the lobe at tornus, which is slightly produced.

♀. Fore wing sometimes with complete antemedial series of small linear spots angled on median nervure; hind wing ochreous, the interspaces almost entirely occupied by fuscous black, leaving some irregular postmedial spots and the termen ochreous.

Hab. COSTA RICA, Irazu (*Rogers*), 1 ♂, 2 ♀ type; PANAMA, Chiriqui (*Trötsch*), 1 ♀, Godman-Salvin Coll. *Exp.*, ♂ 52, ♀ 68 millim.

1932. *Ecpantheria indecisa*.

Ecpantheria indecisa, Wlk. iii. 697 (1855); Oberth. Ét. Ent. vi. p. 111, pl. 18. ff. 4, 7; Kirby, Cat. Het. p. 216.

Ecpantheria degenera, Wlk. iii. 698 (1855); Kirby, Cat. Het. p. 218.

Ecpantheria annulifascia, Wlk. Char. Lep. Het. p. 11 (1869); Kirby, Cat. Het. p. 218.

♂. Head and thorax pale yellowish brown; palpi yellow; frons and antennæ below black; tegulæ, patagia, and thorax with paired black lines meeting behind; legs ringed with black; abdomen fuscous black, with maculate dorsal orange stripe, black-edged orange lateral series, the ventral surface white, usually with black-edged brown ventral stripe. Fore wing pale yellow-brown, with series of black-edged brown annulate spots; two subbasal spots; an antemedial series of four spots angled on median nervure and sometimes conjoined below the cell to the curved medial series; a postmedial series slightly excurved beyond the cell; a subterminal series, usually with elongate spots above vein 5; a terminal series, often with two elongate spots below apex. Hind wing yellowish white, with antemedial, medial, and postmedial black-edged brown spots on costa; sometimes a discoidal point and often two subterminal points towards tornus and some points or streaks on termen; the tornus very slightly produced.

♀. Head, thorax, and fore wing often darker brown; abdomen with the dorsal spots more separate, the ventral stripe more developed; hind wing mostly black, with the white patches on costal area and usually more or less defining subterminal and terminal series of spots on costal half of wing.

Ab. 1. ♂. Ground-colour of head, thorax, and fore wing pale grey; of ♀ dark grey-brown; hind wing of male pure white.

Hab. ARGENTINA (*Darwin*), 6 ♂, 2 ♀, type and type *degenera*, (*Burmeister*) 1 ♂, (*Leech*) 5 ♂, 3 ♀; URUGUAY, 1 ♀. *Exp.*, ♂ 42, ♀ 54 millim.

*1933. *Ecpantheria albiscripta*. (Plate XLVII. fig. 6.)

Ecpantheria albiscripta, Druce, A. M. N. H. (7) vii. p. 74 (1901).

♂. Grey-brown; palpi whitish; tegulae with large annuli edged with black and white; patagia and thorax with similar markings; legs banded with white; abdomen with dorsal and lateral series of orange spots, a sublateral white fascia with some brown marks on it. Fore wing with subbasal, antemedial, medial, postmedial, subterminal, and terminal series of annulate white spots conjoined into irregular bands, the medial band forming a dentate mark on median nervure and the subterminal a curved elongate spot above vein 5 conjoined to the terminal spot. Hind wing white, the inner area with some yellowish hair; underside with the costal area yellowish, with antemedial, medial, and postmedial series of brown spots.

♀. Fore wing with the annulate spots more confluent and irregular; hind wing grey-brown, with the white reduced to a waved irregular postmedial band from costa to vein 4 and slight spots towards tornus; termen with some white spots towards tornus.

Hab. BRAZIL, Rio Grande, type † in Coll. Druce. *Exp.*, ♂ 40, ♀ 46 millim.

*1934. *Ecpantheria anomala*.

Ecpantheria anomala, Burm. Ann. Mus. B. Aires, iii. p. 40, fig. (1883); Kirby, Cat. Het. p. 215.

♂. Pale olive-brown; third joint of palpi, frons, and antennae blackish; shoulders and edges of patagia white; pectus and legs white; abdomen with yellow lateral fasciae, the ventral surface white. Fore wing with the veins darker; some obscure pale and dark spots on costa and in cell. Hind wing with some whitish points on termen, the base of costa and cell with whitish streaks, and two slight streaks beyond lower angle of cell.

Hab. ARGENTINA, Entre Rios. *Exp.* 56 millim. This species is unknown to me.

B. Hind wing with the tornus not produced in either sex.

a. Fore wing with series of black-edged greyish spots.

a¹. Abdomen with dorsal series of black points *confusa*.

b¹. Abdomen with dorsal series of short black bands *suffusa*.

b. Fore wing with the spots and maculate bands black.

a¹. Hind wing white.

a². Hind wing white, with small black spots on terminal area *annulaensis*.

b². Hind wing with the black markings largely developed or covering nearly the whole wing *extrema*.

b¹. Hind wing fuscous black *atra*.

1935. *Ecpantheria confusa*.

Arachnis confusa, Druce, Biol. Centr.-Am., Het. i. p. 99 (1884); id. ibid. ii. p. 378, pl. 75. f. 7; Kirby, Cat. Het. p. 219.

♂. Head and thorax white; palpi black above; frons with lateral black marks; tegulæ and patagia with annulate black-edged marks; fore tibiæ at sides, hind tibiæ at extremity, and fore and mid tarsi above black; abdomen orange, with dorsal black points on terminal segments, the ventral surface white. Fore wing white, with series of irregular black-edged annulate, often sinuous spots; a subbasal series of three spots; an antemedial series angled in cell, bifurcate on inner area into two usually conjoined spots forming an inverted V; a discoidal spot with the discocellulars usually black; a postmedial series incurved below vein 4; a subterminal series angled at vein 4; a terminal series, the spots towards apex dentate.

♀. Hind wing with small discoidal annulate spots; a subterminal series with larger spot above vein 5; a terminal series from apex to vein 2.

Hab. MEXICO, Jalapa (*Hoega*), 1 ♀ type, Godman-Salvin Coll., Vera Cruz. *Exp.*, ♂ 36, ♀ 54 millim.

1936. *Ecpantheria suffusa*.

Arachnis suffusa, Schaus, Ent. Am. v. p. 190 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 378, pl. 75. f. 11; Kirby, Cat. Het. p. 219.

♂. Head and thorax white; palpi orange, black above; frons with black bar; tegulæ, patagia, and metathorax with greyish



Fig. 162.—*Ecpantheria suffusa*, ♂. 1.

black-edged lunulate spots; legs yellow above, ringed with black; abdomen orange, with dorsal black spots and short bands on terminal segments, a lateral series of black spots, the ventral surface white with sublateral black spots on terminal segments. Fore wing white, with series of black-edged grey annulate or sinuous spots; a subbasal series of three spots; antemedial and medial series angled in cell, often interrupted in submedian fold and sometimes conjoined; a discoidal lunule; a postmedial series angled at vein 4, then incurved, sometimes conjoined to the medial series above vein 1; a subterminal series with some of the spots elongate; a terminal series, the spots towards apex dentate. Hind wing white, with antemedial, medial, and postmedial black spots on costa, often a discoidal spot with others between it and tornus, and some on termen towards apex.

♀. Abdomen with more prominent dorsal bands often filled in with grey; hind wing with diffused fuscous antemedial band and medial and postmedial series of conjoined black-edged grey spots.

Hab. MEXICO, Morelos (*H. H. Smith*), 1 ♀, Godman-Salvin Coll., Vera Cruz, type ♀ in Coll. Schaus, Jalapa (*Schaus*), 1 ♂, Guadalajara. *Exp.*, ♂ 42, ♀ 54 millim.

Egg. Dyar, Can. Ent. xxvi. p. 308 (1894).

Nearly spherical with flattened base; diam. .6 mm.; yellowish with a pearly blue gloss, the surface showing under the microscope large shallow pits.

Larva. Young: head yellowish, shining; ocelli black, mouth brown; warts large, concolorous, the hair-bearing tubercles black; colour greenish, yellow with faint white dorsal line; cervical shield small, lens-shaped, brownish; warts ii. and iii. on somites 3, 4, and 12 tinged with orange; hair fine, brownish.

Stage 3. Traces of a black subdorsal line; hair more abundant, mostly short, white, mixed with a few long hairs some of which are black.

Stage 4. Head bilobed; the thoracic somites and an area round wart iii. on somite 12 shaded with orange; feet and ventral surface whitish; narrow dorsal, lateral, and substigmatal white lines, the last with blackish shade and irroration above and below it; warts large, the hair-granules black; hair long, stiff, fine spinulose, white and black mixed.

Stage 5. Head concealed below 1st somite; pale brownish; dorsal area whitish grey, dorsal line white; lateral area dark greenish grey; ventral area greenish with white substigmatal line; warts large, pale, the hair-granules black, series iv. tinged with orange.

Stage 6. Head orange-ochreous, labium and base of antennæ yellow; body grey, mottled with fine white streaks and black dots; subdorsal line obsolete but the area below it darker; warts i.-iii. pearly grey, iv. orange; a broad yellow substigmatal line; wart v. tinged with orange; vi. whitish with yellow base; hair dense, of even length, pointed, bristly, spinulate; a few long white hairs from thoracic somites.

Cocoon slight.

1937. *Ecpantheria amulaensis*.

Ecpantheria amulaensis, Druce, A. M. N. H. (6) iv. p. 87 (1889); id. Biol. Centr.-Am., Het. ii. p. 378, pl. 75. f. 4; Kirby, Cat. Het. p. 217.

♂. White; palpi, frons, and antennæ black; tegulæ, base and extremity of patagia and meso- and metathorax with black spots; pectus and legs black; abdomen black, with slight dorsal segmental orange lines and lateral series of spots, the ventral surface yellowish with sublateral and ventral black spots. Fore wing with two black spots on basal part of costa, the outer with oblique series of three spots from it to vein 1; an antemedial oblique series of three spots from median nervure to inner margin; a medial band with irregularly sinuous edges strongly angled on median nervure; two

points in end of cell and four beyond it; a postmedial series of small spots from vein 5 to inner margin, strongly incurved below vein 3; a subterminal series of irregular spots which are large except those between veins 3 and 5; a terminal series of small spots, those above veins 2, 5, and 6 reduced to points; cilia black at middle. Hind wing with obscure antemedial oblique blackish band across the cell; a discoidal point; two small subterminal spots below costa and sometimes points below veins 7 and 2; some small spots on termen.

Ab. 1. Fore wing with the white markings much reduced; hind wing black.

♀. Fore wing with the black markings considerably reduced; hind wing with the subterminal spots larger.

Hab. MEXICO, 1 ♂, 1 ♀, Guerrero (*H. H. Smith*), 2 ♂ type, Godman-Salvin Coll. *Exp.*, ♂ 40, ♀ 58 millim.

1938. *Ecpantheria extrema*.

Ecpantheria extrema, Wlk. iii. 691 (1855); Druce, Biol. Centr.-Am., Het. i. p. 97; Kirby, Cat. Het. p. 217.

Ecpantheria chilensis, Oberth. Ét. Ent. vi. p. 111, pl. 20. f. 5 (1881); Kirby, Cat. Het. p. 217.

Head and thorax white; palpi, frons, and antennæ black; tegulæ with black spots, patagia with two pairs, prothorax with one spot, meso- and metathorax each with a pair; pectus and legs black, the latter banded with white; abdomen black, with lateral series of orange spots, the ventral surface white with ventral maculate fascia. Fore wing white with series of black spots, three subbasal, five larger antemedial, and seven still larger medial spots, each series angled on median nervure; some six small spots in and beyond end of cell; a postmedial series of spots, double below vein 5 and with the spot above vein 6 more elongate; a terminal series of spots; cilia black at middle and above tornus. Hind wing white, the basal half suffused with fuscous; a sinuous postmedial series of spots ending at tornus and some points on termen.

Hab. MEXICO, 1 ♂, 1 ♀ type, Oaxaca; GUATEMALA (*Rodriguez*), 2 ♂; COSTA RICA (*Rogers, Underwood*), 4 ♂, 3 ♀, Godman-Salvin Coll.; ? CHILI. *Exp.*, ♂ 38, ♀ 46 millim.

*1939. *Ecpantheria atra*.

Ecpantheria atra, Oberth. Ét. Ent. vi. p. 109, pl. 15. f. 4 (1881); Kirby, Cat. Het. p. 217.

Arctia eminens, H. Edw. Pap. iv. p. 59 (1884); Kirby, Cat. Het. p. 271.

♂. Head black, the vertex white; tegulæ and patagia black with white edges; thorax white, with three large black patches; legs blue-black, the mid and hind femora and tibiæ banded with white; abdomen black, with lateral orange fasciæ, the ventral surface yellowish white with sublateral and ventral series of black points. Fore wing white; a black spot at base of costa and small spot below the cell; two short subbasal streaks in submedian inter-

space; a large patch from near base to beyond middle extending from costa to median nervure, and with three large black spots between it and inner margin; a series of spots angled at lower angle of cell, then incurved; five spots just beyond the cell; a sub-terminal series of large spots, the two between veins 3 and 5 smaller; a terminal series of spots, those at apex, between veins 3 and 5 and below 2 larger, or the black markings confluent and covering nearly the whole wing. Hind wing black, with the cilia yellowish white above and below middle.

Ab. 1. *eminens*. Vertex of head, thorax, and fore wing tinged with ochreous.

Hab. Mexico, Jalapa, Oaxaca, type † ♂ in Coll. Oberthür. *Exp.* 44 millim.

Genus ARACHNIS.

Type.

Arachnis, Geyer, Zutr. Ex. Schmiett, v. p. 28 (1837), non descr.;
Clem. Proc. Acad. Sci. Philad. 1860, p. 525..... *aulæa*.

Proboscis aborted, minute; palpi porrect, not reaching beyond the frons; antennæ almost simple; head and thorax smoothly scaled; tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9, 10 stalked; 11 free. Hind wing with veins 3, 4 from angle of cell or very shortly stalked; 5 from just above angle; 6, 7 from upper angle; 8 from middle of cell.

- A. Hind wing with the ground-colour crimson.
 - a. Metathorax with slight white streak.
 - a¹. Underside of fore wing with the ground-colour of basal half of costal area crimson.
 - a². Thorax and fore wing with the markings dark fuscous grey..... *pompeia*.
 - b². Thorax and fore wing with the markings pale grey... *aulæa*.
 - b¹. Underside of fore wing with the ground-colour of basal half of costal area yellow..... *picta*.
 - b. Metathorax with triangular white patch *dilecta*.
- B. Hind wing with the ground-colour yellow *zuni*.
- C. Hind wing white..... *albescens*.
- D. Hind wing hyaline, with the costal and inner areas brownish.
 - a. Fore wing with black-edged brown spots on costa, the terminal area with a semihyaline patch..... *miskma*.
 - b. Fore wing without black-edged spots on costa or semihyaline patch *martina*.

1940. *Arachnis pompeia*.

Arachnis pompeia, Druce, A. M. N. H. (6) xiii. p. 174 (1894); id. Biol. Centr.-Am., Het. ii. p. 377, pl. 75. ff. 2, 3.

Head white; palpi crimson at sides, the third joint black above; lower part of frons grey-brown with black line above; antennæ black; vertex of head with black-edged grey-brown patch; tegulæ and patagia grey-brown edged by fine black lines, white at sides; thorax grey-brown, with fine black lines; coxæ and femora above crimson; legs ringed with black, the hind tarsi with white rings and crimson spots; abdomen crimson, with broad dorsal black-edged maculate

grey-brown fascia, a lateral series of large black-edged grey-brown spots, the ventral surface white with sublateral and medial series of black-edged grey-brown spots. Fore wing white, mostly covered with black-edged grey-brown markings; a subbasal spot on costa, slight streaks in cell, and two elongate spots below the cell; ante-medial, medial, and postmedial maculate bands very oblique towards costa, angled on median nervure and vein 4, then conjoined; a subterminal series of spots conjoined at middle to the postmedial series; a highly and irregularly dentate terminal series of spots. Hind wing black, sometimes with small crimson spots in and below cell; an oblique series of spots, varying in number, from costa beyond middle to tornus; a subterminal series of irregular more or less conjoined spots angled inwards in submedian fold. Underside of fore wing with the ground-colour of costal half crimson to beyond middle.

Hab. MEXICO, Durango (*Becker*), 1 ♂, 2 ♀ type, Godman-Salvin Coll. *Exp.*, ♂ 42, ♀ 56 millim.

1941. *Arachnis aulæa*.

Arachnis aulæa, Geyer, Zutr. Ex. Schmett. v. p. 28, ff. 913, 914 (1837); Oberth. Et. Ent. vi. p. 111, pl. 19. ff. 4, 7; Druce, Biol. Centr.-Am., Het. i. p. 98; Kirby, Cat. Het. p. 218.
Ecpantheria incarnata, Wlk. iii. 690 (1855).

Head white; palpi crimson fringed with white, lower part of frons and antennæ blackish, vertex of head grey; tegulæ and patagia grey,



Fig. 163.—*Arachnis aulæa*, ♂. $\frac{1}{2}$.

edged with fine black lines, white at sides; thorax grey with black lines; pectus and legs white, coxæ and femora above crimson, legs with black bands and crimson spots; abdomen crimson, with blackish-grey dorsal stripe narrowing towards base and edged by dentate black lines, lateral series of black-edged grey spots sometimes conjoined to the dorsal fascia, the ventral surface white with sublateral and medial series of black-edged grey spots. Fore wing whitish, mostly covered with black-edged grey markings; a subbasal spot on costa; a narrow elongate mark in cell and two larger marks below it; ante-medial, medial, and postmedial maculate bands very oblique towards costa and strongly angled on median nervure and vein 4, conjoined

below the cell; a black mark in lower end of cell; a subterminal curved series of very irregular spots, conjoined partly to the post-medial series and largely to the terminal series of elongate spots. Hind wing crimson, with black patches in cell and on inner area; a medial black band forking towards costa and dentate just beyond cell and on vein 1; a subterminal band, dentate at vein 5 and below vein 2; a terminal band with more or less dentate inner edge. Underside of fore wing with the ground-colour of costal half crimson to beyond middle.

The extent of the maculate bands of fore wing and the black bands of hind wing varies very much, the latter often having the crimson very much reduced.

Hab. MEXICO, type *incarnata*, Jalapa (*Trujillo, Hoega*), 5 ♂, 6 ♀, Coatepec (*Brooks*), 1 ♀; HONDURAS (*Blancaneaux*), 1 ♀; GUATEMALA (*Rodriguez*), 3 ♂, 1 ♀, Godman-Salvin Coll. *Exp.*, ♂ 52, ♀ 64 millim.

Egg. Dyar, Can. Ent. xxvi. p. 307 (1894).

Spherical, flattened at base; pearly iridescent; diam .6 mm.; reticulations rounded, smaller towards apex; their angles with a series of short stiff spines.

Larva. Stage 1. Head bilobed; clypeus large; shining blackish; ocelli black; mouth brown; body whitish brown, milky on dorsum; warts small, black, with single hairs from i. and ii. on somites 4-11; the hairs pointed and minutely spinulose; cervical shield, legs, and outer side of prolegs black.

Stage 2. Hair more numerous, black, bristly; body pale chocolate-brown with darker subdorsal bands, and faint pale dorsal line.

Stage 3. Body black-brown, with flesh-coloured dorsal line; warts black; hair more abundant at extremities, with a few long white ones anteriorly; slight white lines above warts iii. and iv.

Stage 4. Dorsal area on somites 5-9 brick-red round wart i.; lateral white lines obscure; the subventral hair white.

Stage 5. Head rather square; body black with red dorsal line; hair black at extremities, foxy-red on medial somites, the long anterior and posterior hair and most of the sublateral hair nearly white.

Stage 6. Hair foxy-red mixed with black and a few long and pale; spiracles small, white.

Stage 7. Head reddish on vertex; body with the central lateral warts brownish.

Stage 8. Black; the warts brown; prolegs dull crimson; spiracles reddish.

Stage 9. Hair all black; body sooty-black; the warts pale brown; spiracles white; head black; labrum and antennæ pale.

Cocoon transparent, double, of soft silk mixed with a few hairs; imago emerged in July.

1942. *Arachnis picta*.

Arachnis picta, Pack. Proc. Ent. Soc. Philad. iii. p. 126 (1864); Stretch, Zyg. & Bomb. N. Am. p. 83, pl. 3. f. 6; Oberth. Ét. Ent. vi. p. 112, pl. 19. ff. 5, 8; Kirby, Cat. Het. p. 218.

♂. Head white; palpi orange and scarlet; frons and antennæ black; tegulæ white with black-edged grey patches, orange below; patagia grey edged by black lines, their outer edges white; thorax whitish, with two broad black-edged grey stripes; pectus white, with brown and crimson stripes; legs black and white, with the inner side of fore coxæ and femora above crimson; abdomen crimson, with dorsal and lateral blackish stripes expanding towards base, anal tuft black and orange, the ventral surface white with sublateral and ventral series of blackish points. Fore wing white, with black-edged grey markings covering the greater part of wing; a spot at base of costa and three conjoined streaks between cell and inner margin; antemedial, medial, and two postmedial maculate bands, the first angled outwards below the cell, then incurved, the 2nd and 3rd angled outwards strongly at middle, then strongly incurved and with two small discoidal spots between them, the 4th with elongate spot above vein 5, then excurved to vein 3, then incurved; a terminal series of very irregular dentate spots. Hind wing crimson, with medial, postmedial, subterminal, and terminal grey-brown bands edged with black, the 1st expanding into a large black patch on inner area, the 2nd angled at lower angle of cell, then reduced to points, the 3rd consisting of more or less conjoined very irregular spots, the 4th narrow with waved inner edge; cilia whitish below vein 2. Underside of fore wing with the ground-colour of basal two-thirds orange-yellow; hind wing with yellow spots on costa.

♀. Abdomen brown above, with narrow segmental black and crimson bands reduced to small spots on terminal segments; hind wing with the postmedial and subterminal bands broad throughout and conjoined towards tornus.

Hab. U.S.A., S. California, 2 ♂. *Exp.*, ♂ 44, ♀ 54 millim.

Subsp. 1. *maia*, Ottolengui, Ent. News Philad. iv. p. 125.

Thorax and fore wing with the white ground-colour more extensive; underside of fore wing with the ground-colour of the basal area below submedian fold crimson; male with a semihyaline patch in and beyond cell.

Hab. Colorado, 1 ♀.

Subsp. 2. Underside of fore wing with the ground-colour of basal area crimson, leaving orange spots on costa only.

Hab. New Mexico, Arizona.

Subsp. 3. *perotensis*, Schaus, Ent. Am. v. p. 190 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 378, pl. 75. f. 9.

Fore wing with the bands browner and leaving little of the ground-colour male with the whole hind wing hyaline, except the black and white costa, crimson inner area, and black spots on termen.

Hab. MEXICO, Las Vegas, type † in Coll. Schaus, Milpas (*Forrer*), 1 ♀, Godman-Salvin Coll.

Subsp. 4. *citra*, Neum. & Dyar, Ent. News Philad. iv. p. 140 (1893).

Head, thorax, and fore wing with the ground-colour yellow-buff and extensive, the bands reduced; underside of fore wing yellow, paler towards apex.

Hab. Colorado, 1 ♀.

1943. *Arachnis dilecta*.

Spilosoma dilecta, Boisd. Léop. Guat. p. 97 (1870); Kirby, Cat. Het. pp. 219, 908.

Ecpantheria sanguinea, Oberth. Ét. Ent. vi. p. 112, pl. 20. ff. 1, 2 (1881); Druce, Biol. Centr.-Am., Het. i. p. 98.

♀. Palpi crimson, fringed with white below; frons and antennæ brown; vertex of head white; neck crimson; thorax white, with broad brown stripes edged by fine black lines on tegulæ, patagia, and thorax, the last forking posteriorly and enclosing a white spot; fore coxæ and femora above crimson; legs with black-edged brown patches; abdomen scarlet, with brown dorsal spots on first three segments, black-edged dorsal brown bands on four subterminal segments, and a large patch on terminal segment, the ventral surface white with medial series of black-edged brown spots. Fore wing white, with black-edged brown markings; a subbasal spot on costa; antemedial, medial, postmedial, and subterminal very irregular bands, oblique towards costa, bent outwards to inner margin, and all connected below the cell where they enclose small black-edged white spots towards base, before middle, two at middle and one beyond middle, the subterminal band with a detached triangular patch on costa; a terminal band with irregular inner edge, bidentate and conjoined to the subterminal band below apex. Hind wing scarlet, with black-edged medial, postmedial, and subterminal irregular brown bands, the 1st dentate on inner side and expanding on outer on vein 1, the 2nd expanding on outer side beyond the cell and at tornus bent round on inner margin, the last expanding below costa, at middle and tornus; a narrow terminal band; cilia white at tornus. Underside of fore wing with the ground-colour of cell scarlet.

Hab. MEXICO (*Hoege*), 1 ♀, Godman-Salvin Coll.; HONDURAS. *Exp.* 80 millim.

1944. *Arachnis zuni*. (Plate XLVII. fig. 15.)

Arachnis zuni, Neum. Ent. Am. vi. p. 173 (1890); Druce, Biol. Centr.-Am., Het. ii. p. 378, pl. 75. ff. 5, 8; Kirby, Cat. Het. p. 219.

♂. Head white; palpi yellow, fringed with white below; frons brown, with black line above; antennæ brown; thorax white, with broad brown fasciæ edged by fine black lines on tegulæ, patagia, and thorax, the last forking posteriorly; abdomen yellow, with dorsal

maculate black-edged brown fascia, lateral series of spots, the ventral surface white with medial series of spots. Fore wing white, with black-edged brown markings; a subbasal spot on costa; antemedial, medial, and postmedial irregular bands, oblique towards costa, and all conjoined below the cell, where they enclose small black-edged white spots near base, at middle, and several beyond middle; a triangular patch on costa before apex; a terminal irregularly dentate band conjoined to the postmedial band below apex. Hind wing yellow, the disk semihyaline; three brown spots on costa, slight streaks on median nervure and vein 1; two points near lower angle of cell; some subterminal and terminal points and a larger spot near tornus. Underside of fore wing with the ground-colour of costal half yellow to beyond middle.

♀. Hind wing without hyaline on disk; black-edged antemedial, postmedial, and subterminal brown bands, the two latter bent outwards to tornus; a terminal black line; cilia brown.

Hab. U.S.A., New Mexico, Las Vegas; MEXICO, Durango (*Becker*), 1 ♂, 1 ♀, Godman-Salvin Coll. *Exp.*, ♂ 60, ♀ 74 millim.

1945. *Arachnis albescens*, n. sp. (Plate XLVII. fig. 25.)

Arachnis confusa, Druce, Biol. Centr.-Am., Het. ii. p. 378 (part).

♂. Head and thorax grey-white; tegulæ and patagia with fuscous-edged lunules; legs with fuscous rings; abdomen orange, the ventral surface white. Fore wing semihyaline, the costal and inner areas white; series of irregular black-edged annulate spots; subbasal spots on costa and median nervure; an antemedial series angled below costa, then oblique; a medial series angled in cell; a postmedial series angled at lower angle of cell; a subterminal series with some of the spots more elongate; a terminal series with some of the spots almost linear. Hind wing white, with antemedial, medial, and postmedial black-edged annuli on costa.

Hab. GUATEMALA (*Rodriguez*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 40 millim.

*1946. *Arachnis mishma*.

Arachnis mishma, Druce, Biol. Centr.-Am., Het. ii. p. 379, pl. 75. f. 10 (1897).

♂. Head and tegulæ white, the latter with black-edged brown spots; palpi greyish; antennæ black; patagia and thorax grey, the former edged with black; pectus and legs grey; abdomen crimson, with a dorsal fascia and the terminal segment black, the ventral surface grey. Fore wing grey-brown, with five black-edged brown spots on costal area; a dark-edged pale medial line from cell to inner margin strongly incurved above vein 1; a pale postmedial spot on inner margin; the terminal area semihyaline from origin of vein 2 to apex and tornus, the veins dark with pale points. Hind wing hyaline; the costal area grey-brown barred with white, the inner area clothed with blackish hairs,

with a pink spot at tornus; cilia brown, with a white patch at middle.

Hab. MEXICO, Mineral del Monte (*Ehrenberg*), type in Coll. Staudinger. *Exp.* 46 millim. This species is unknown to me.

*1947. *Arachnis martina*.

Arachnis martina, Druce, Biol. Centr.-Am., Het. ii. p. 379, pl. 75. f. 12 (1897).

♂. Head and thorax brownish black, the tegulæ edged with white; pectus and legs grey-white; abdomen scarlet, dorsal and lateral stripes and the terminal segment black, the ventral surface grey-white. Fore wing grey-brown, with irregular whitish basal line; a dark-edged pale antemedial line oblique from costa to median nervure, where it is strongly angled, then incurved to vein 1; a blackish medial shade with a pale mark before it from costa to median nervure; a dark postmedial line with a pale mark on it at costa, then excurved between veins 6 and 2 where it is angled inwards, then oblique and with pale points on it; two subterminal pale points towards apex and larger spots between veins 6 and 2. Hind wing semihyaline; the costal area and termen dark brown, the inner area clothed with black hair.

Hab. MEXICO, type in Coll. Staudinger. *Exp.* 38 millim. This species is unknown to me.

Genus **APANTESIS**.

	Type.
<i>Apantesis</i> , Wlk. iii. 631 (1855)	<i>vittata</i> .
<i>Callartesia</i> , Pack, Proc. Ent. Soc. Phil. iii. p. 114 (1864)	<i>ornata</i> .
<i>Orodemnius</i> , Wlgrn. Skand. Het. ii. p. 315 (1866).....	<i>quenseli</i> .
<i>Mimarctia</i> , Neum. & Dyar, J. N. Y. Ent. Soc. ii. p. 9 (1894)	<i>arge</i> .

Proboscis aborted, minute; palpi porrect to beyond the frons; antennæ of male bipectinate with moderate branches, of female serrate; head, thorax, and base of abdomen clothed with woolly hair; tibiæ with the spurs short. Fore wing broad; vein 3 from near angle of cell; 5 from just above angle; 6 from just below upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 3 from near angle of cell; 5 from above angle; 6, 7 from upper angle; 8 from middle of cell.

A. Fore wing with pale streaks on the veins.

a. Hind wing with the ground-colour scarlet or tinged with pink.

a¹. Ventral surface of abdomen black.

a². Fore wing with the streaks on the veins broad; hind wing with black spot at origin of vein 2... *virgo*.

b². Fore wing with the streaks on the veins narrow; hind wing without black spot at origin of vein 2 *parthenice*.

b¹. Ventral surface of abdomen pale with black spots.

a². Fore wing with the postmedial line oblique throughout..... *rectilinea*.

b². Fore wing with the postmedial line angled at lower angle of cell.

a³. Hind wing pink or tinged with pink.

a⁴. Fore wing with oblique bar across end of cell *michabo*.

- b*⁴. Fore wing with triangular spot in end of cell *arge*.
*b*³. Hind wing with the ground-colour scarlet.
*a*⁴. Fore wing deep black; exp. about 50 mm. *ornata*.
*b*⁴. Fore wing black-brown; exp. about 30 mm. *obliterata*.
b. Hind wing with the ground-colour orange or whitish, sometimes entirely suffused with black.
*a*¹. Abdomen black below.
*a*². Fore wing with the streaks on the veins broad; hind wing with well-separated black spots. *virgo* ab. *citrinaria*.
*b*². Fore wing with the streaks on the veins narrow; hind wing with more or less confluent black markings *anna*.
*b*¹. Abdomen with the ventral surface yellow, with quadrate black patches.
*a*². Size large; hind wing broad. *ornata* ab. *ochracea*.
*b*¹. Size small; fore wing narrow.
*a*³. Abdomen with dorsal black stripe formed of quadrate patches *quenseli*.
*b*³. Abdomen with dorsal series of black spots ... *virguncula*.
B. Fore wing without pale streaks on the veins.
a. Fore wing with pale fascia in submedian interspace.
*a*¹. Abdomen with the terminal segment entirely black *proxima*.
*b*¹. Abdomen with the terminal segment pale at sides.
*a*². Fore wing with the antemedial line present.
*a*³. Hind wing scarlet or orange.
*a*⁴. Fore wing with the ante- and postmedial lines nearly erect towards costa *ornata* (ab.).
*b*⁴. Fore wing with the ante- and postmedial lines oblique towards costa *bolanderi*.
*b*³. Hind wing pink.
*a*⁴. Hind wing deep rose-red.
*a*⁵. Fore wing with the bands broad, centred with crimson *favorita*.
*b*⁵. Fore wing with the bands narrow *superba*.
*b*⁴. Hind wing pale pink *blacei*.
*c*³. Hind wing whitish *cervinoides*.
*b*². Fore wing with the antemedial line absent.
*a*³. Hind wing tinged with pale pink *williamsi*.
*b*³. Hind wing crimson or tinged with crimson.
*a*⁴. Fore wing with the postmedial line oblique throughout *phyllira*.
*b*⁴. Fore wing with the postmedial line angled at lower angle of cell.
*a*⁵. Fore wing with pale fascia on costa *vittata*.
*b*⁵. Fore wing with the costal edge black, a pale subcostal fascia *nais*.
b. Fore wing without pale fascia in submedian interspace.
*a*¹. Hind wing crimson, with black terminal band ... *placentia*.
*b*¹. Hind wing yellow, with scarlet terminal band ... *fasciata*.

1948. *Apantesis virgo*.

Bombyx virgo, Linn. Syst. Nat. i. p. 501 (1758); Clerck, Icones, pl. 42. f. 5; Abbot & Smith, Lep. Georg. ii. pl. 62; Stretch, Zyg. & Bomb. N. Am. p. 126, pl. 6. ff. 1, 2; Grote, Proc. Ent. Soc. Phil. iii. p. 325, pl. 4. f. 4; Kirby, Cat. Het. p. 266.

Bombyx virgo, var. *citrinaria*, Neum. & Dyar, Ent. News. iv. p. 142 (1893).

Head and thorax ochreous white; palpi, sides of frons, antennæ,

and broad stripes on tegulæ, patagia, and thorax black, the hind tibiæ with ochreous stripe above; abdomen scarlet above, with dorsal series of large black spots, the ventral surface black with some ochreous spots on medial segments. Fore wing black, with flesh-coloured markings; the costa, streaks on the veins, a fascia above submedian fold from base to termen, and the inner margin flesh-colour; a band across end of cell; a postmedial band from costa to submedian fold angled at vein 4; the subterminal band oblique from costa to termen above vein 5, then running inwards to the postmedial band at vein 4, then outwards to termen at vein 2, then inwards to the submedian fascia; cilia flesh-coloured. Hind wing scarlet; medial black spots on costa and median nervure, and sometimes on vein 1; a discoidal lunule; subterminal spots from costa to vein 4, and on veins 2 and 1, and terminal spots at apex and middle, all with yellowish edges.

Ab. 1. *citrinaria*. Hind wing yellow.

Hab. CANADA, Renfrew Co., Grote Coll., 2 ♂, 1 ♀; U.S.A., Atlantic States, N. York, 6 ♂, 3 ♀, Massachusetts, 1 ♀. *Exp.* 54–60 millim.

1949. *Apantesis parthenice*.

Callimorpha parthenice, Kirby, Richardson's Fauna Bor.-Amer. iv. p. 303 (1837); Kirby, Cat. Het. p. 266.

Arctia saundersii, Grote, Proc. Ent. Soc. Phil. iii. p. 75 (1864); Kirby, Cat. Het. p. 267.

Arctia intermedia, Stretch, Zyg. & Bomb. N. Am. i. p. 216, pl. 9. f. 3 (1874); Kirby, Cat. Het. p. 267.

Arctia stretchii, Grote, Can. Ent. vii. p. 197 (1875); Kirby, Cat. Het. p. 267.

Arctia oithona, Streek. Lep. p. 131 (1878); Kirby, Cat. Het. p. 270.

Arctia approximata, Stretch, Ent. Am. i. p. 104 (1885); Kirby, Cat. Het. p. 267.

♂. Head and thorax ochreous white or flesh-colour; palpi, sides of frons, antennæ, stripes on tegulæ, patagia, shoulders, and thorax black; pectus and legs black; abdomen crimson above, with dorsal series of conjoined black spots, the terminal segment and ventral surface black, sometimes with some ochreous ventral spots. Fore wing black; the costa, veins, and inner margin with flesh-coloured streaks, and a broader fascia above submedian fold from base to termen; an antemedial band sometimes present across cell and from submedian fold to vein 1; an oblique medial band across cell, sometimes extending to costa and to submedian fascia or vein 1; the postmedial band obtusely angled at vein 4 and ending at submedian fascia or not reaching it; the subterminal band oblique from costa to termen above vein 5, then running to postmedial band at vein 4, then to termen at vein 2, and inwards to submedian fascia; cilia flesh-coloured. Hind wing crimson, with discoidal black spot; an apical patch, large subterminal spots on veins 2 and 1, and an irregular spot on termen at vein 5.

♀. Hind wing more scarlet.

The form *intermedia* from the S. States is larger than the Northern form.

Hab. CANADA, Renfrew Co., 5 ♂, Grote Coll.; U.S.A., Atlantic States, 2 ♂, 1 ♀, Massachusetts, Buffalo, 1 ♂, Texas, Grote Coll., 1 ♂. *Exp.*, ♂ 44, ♀ 52 millim., *intermedia* ♂ 52 millim.

1950. *Apantesis rectilinea*. (Plate XLVII. fig. 19.)

Arctia rectilinea, French, Can. Ent. xi. p. 45 (1879); Kirby, Cat. Het. p. 267.

Head and thorax pinkish white; palpi, sides of frons, and antennæ black; back of head with some crimson; tegulæ, patagia, and thorax with black stripes; pectus and legs black, the coxæ and femora above pink, hind tibiæ with whitish stripes above; abdomen crimson above, with dorsal maculate stripe and lateral series of spots, the ventral surface pinkish white with sublateral series of black spots. Fore wing black; the costa, veins, and inner margin streaked with pinkish white, and a broader fascia above submedian fold; oblique medial and postmedial bands from costa to submedian fascia, or the former incomplete; the subterminal band oblique from costa to near termen above vein 5, then running inwards to postmedial band at vein 4, then to termen at vein 2 and inwards to submedian fascia which does not reach termen; cilia pinkish white. Hind wing crimson; the costal area black except at base, emitting a black discoidal lunule and a subterminal spot to vein 5; large subterminal spots on vein 2 and on termen at vein 1, and a terminal band except towards tornus, angled inwards at vein 4; cilia pinkish white.

Hab. U.S.A., Atlantic States, Mississippi Valley, Illinois, 1 ♂, Texas, 4 ♂, 1 ♀, Grote Coll. *Exp.* 40 millim.

1951. *Apantesis michabo*. (Plate XLVIII. fig. 18.)

Arctia michabo, Grote, Can. Ent. vii. p. 196 (1875); Kirby, Cat. Het. p. 266.

Arctia minea, Sloss, Ent. News, iii. p. 257 (1892).

Head and thorax flesh-pink; palpi, sides of frons, antennæ, and stripes on tegulæ, patagia, and thorax black; pectus, coxæ, and femora pink, with black patches on fore coxæ and the femora, tibiæ and tarsi black, with pink stripe on hind tibiæ above; abdomen pink, with dorsal, lateral, and sublateral series of more or less developed black spots. Fore wing black, with flesh-pink fasciæ on costa, above submedian fold, and on inner margin; the veins with pink stripes; an antemedial band across the cell usually present; a more or less developed oblique medial band, sometimes continued between submedian fascia and vein 1; the postmedial band angled obtusely at vein 4 and ending at submedian fascia; the subterminal band oblique from costa to termen above vein 5, then running inwards to the postmedial band at vein 4, then to termen at vein 2, and inwards to submedian fascia; cilia pink. Hind wing pinkish red, or the disk whitish in male; medial diffused black

spots usually present on subcostal and median nervures and vein 1; a discoidal spot; subterminal spots on veins 7, 5, 2, and 1, and terminal spots below apex and veins 4 and 2. Underside of costa of fore wing scarlet.

Ab. 1. *minea*: the flesh-colour replaced by fiery red.

Hab. U.S.A., Atlantic States, 3 ♂, 4 ♀, type. *Exp.* 46-54 millim.

1952. *Apantesis arge*.

Noctua arge, Drury, Ill. Ex. Ent. i. pl. 18. f. 3 (1773); Stretch, Zyg. &

Bomb. N. Am. p. 225, pl. 9. ff. 10, 11; Kirby, Cat. Het. p. 266.

Bombyx dione, Fabr. Syst. Ent. p. 572 (1775).

Noctua incarnatorubra, Goeze, Ent. Beytr. iv. (3) p. 241 (1781).

Chelonia nereia, Boisd. Ann. Soc. Ent. Belge, xii. p. 77 (1869); Kirby, Cat. Het. p. 266.

Chelonia doris, Boisd. Ann. Soc. Ent. Belge, xii. p. 77 (1869); Kirby, Cat. Het. p. 266.

Euprepia arge, var. *nervosa*, Neum. & Dyar, Ent. News, iv. p. 142 (1893).

Bombyx calebis, Martyn, Psyche, pl. 11. f. 25 ined.

♂. Head, thorax, and abdomen pale pinkish; palpi, sides of frons, antennæ, and stripes on tegulæ, patagia, thorax, and shoulders black; pectus with black patches; legs black, the fore coxæ and femora above crimson; abdomen with dorsal and lateral series of black spots and ventral bands. Fore wing black, with the pale pinkish stripes on costa, veins, above submedian fold, and inner margin occupying the greater part of wing; antemedial and medial triangular bands across the cell, often incomplete; the postmedial band oblique from costa to vein 4, where it is strongly angled, usually reaching submedian fascia; the subterminal band oblique from costa to termen above vein 5, bent inwards to postmedial band at vein 4, then to termen at vein 2, and inwards to submedian fascia; cilia pinkish. Hind wing whitish tinged with pink, especially on inner area; some diffused black on costal area; a discoidal lunule; subterminal spots above vein 5, above and below vein 2 and usually vein 1; some spots on termen below apex and near veins 4 and 2; a pink terminal line.

Ab. 1. *nervosa*. The black areas more extensive; fore wing with the transverse band obsolete or with portions of the postmedial and subterminal present; hind wing blackish, with the veins, cilia, and inner margin pink.

♀. Less tinged with pink, the black markings somewhat reduced.

Hab. U.S.A., Atlantic States, New York, Grote and Zeller Colls., 12 ♂, 3 ♀, California. *Exp.*, ♂ 48, ♀ 56 millim.

1953. *Apantesis ornata*.

Callaretia ornata, Pack. Proc. Ent. Soc. Phil. iii. p. 115 (1864); Kirby, Cat. Het. p. 272.

Arctia achaia, Grote & Rob. Trans. Am. Ent. Soc. i. p. 334 (1868); Kirby, Cat. Het. p. 267.

Arctia dahurica, Grote, Trans. Am. Ent. Soc. i. p. 336 (1868), nec Boisd.; Kirby, Cat. Het. p. 270.

Arctia edwardsii, Stretch, Zyg. & Bomb. N. Am. i. p. 77 (1872); Kirby, Cat. Het. p. 268.

Arctia ochracea, Stretch, Zyg. & Bomb. N. Am. i. p. 125, pl. 5. f. 21 (1872); Neum. Papilio, iii. p. 151.

Arctia barda, H. Edw., Papilio, i. p. 39 (1881).

Arctia simplicior, Butl. A. M. N. H. (5) viii. p. 311 (1881); Kirby, Cat. Het. p. 267.

Arctia nevadensis, var. *sulphurica*, Neum. Ent. Am. i. p. 93 (1885).

Arctia elongata, Stretch, Ent. Am. i. p. 105 (1885); Kirby, Cat. Het. p. 270.

Arctia blakei, var. *perpicta*, Dyar, Psyche, vi. p. 381 (1893).

♂ (*achaia*). Head, thorax, and abdomen ochreous; palpi, sides of frons, antennæ, stripes on tegulæ, patagia, shoulders, and thorax black; pectus and legs black, the coxæ, extremities of femora and stripes on tibiæ ochreous; abdomen with dorsal maculate fascia and lateral and sublateral series of spots. Fore wing black, with ochreous streaks on costa, veins, and inner margin, and fascia above submedian fold; an antemedial rather irregular band narrowing towards inner margin; a medial band often obsolete towards inner margin; a postmedial nearly straight band from costa to submedian fascia; the subterminal band oblique from costa to near termen above vein 5, then running inwards to postmedial band at vein 4, then to termen at vein 2, and inwards to submedian fascia; cilia ochreous at tips. Hind wing scarlet, orange at inner margin; the basal area black, or with black streaks in and below cell and on vein 1; medial spots on median nervure and vein 1, often conjoined to the basal black area; subterminal spots above vein 5 and on veins 2 and 1; conjoined terminal patches at apex and middle and spot in submedian interspace, or the black areas confluent leaving irregular patches of red.

♀. Ventral surface of abdomen black, sometimes with slight segmental ochreous line.

Ab. 1. Fore wing with the antemedial line reduced to a spot on costa.

Ab. 2. *ochracea*. Hind wing with the ground-colour yellow.

(a) Fore wing with the bands present.

(b) Fore wing with the bands except the subterminal absent.

Ab. 3. Fore wing with the streaks on the veins reduced to traces.

(a). Hind wing scarlet.

(a') *ornata*. Fore wing with the antemedial band well-developed.

(b') *perpicta*. Fore wing with the antemedial band absent.

(b) *sulphurica*. Hind wing orange.

Hab. BR. COLUMBIA; U.S.A., California, San Raphael, 1 ♂, Zeller Coll., 4 ♂, 2 ♀, Grote Coll., Rouge R., 3 ♂, Jacksonville, 1 ♀ type *simplicior*, Sonoma Co., 1 ♂, Mendocino Co., 1 ♀ (*Walsingham*).
Exp. 48–54 millim.

Egg. Dyar, Psyche, vi. pp. 380, 556.

Subconoidal, flat at base, quite smooth under microscope, pale yellow; diam. .8 mm.

Larva. Stage 1. Head slightly bilobed, black, pale round mouth;

body whitish, the prothoracic shield black; hairs single, black; warts large.

Stage 2. Head light brown, blackish at vertex of lobes and round mouth; body pale brown, with indistinct whitish dorsal line; prothoracic shield and warts black, the latter with long spreading blackish hair.

Stage 3. Body brown, with broad whitish dorsal line; warts very large, black, with abundant black hair, especially posteriorly, where there are a few white hairs.

Stage 4. Dorsal line straight, white; body a little mottled at sides.

Stage 5. Body, warts, and hair black, except a faint reddish dorsal line.

Stage 6. Body black above, black-brown below, mottled with paler colour, and with an obscure reddish-brown dorsal band; warts black; hair short, barbed, deep black, white on wart vi.; a few long white hairs on somites 11, 12.

*1954. *Apantesis obliterata*. (Plate XLVII. fig. 9.)

Arctia obliterata, Stretch, Ent. Am. i. p. 105 (1885); Kirby, Cat. Het. p. 271.

♂. Palpi and head below black, vertex of head yellowish with a black spot; thorax yellowish, the tegulæ, patagia, and thorax with black stripes; legs black, fore femora tinged with ochreous, tibiæ whitish on outer side; abdomen ochreous, with broad dorsal black fascia, the ventral surface whitish, with sublateral series of black spots. Fore wing black-brown; the costa, inner margin, veins, and submedian fascia yellowish; traces of a medial band; the post-medial band reduced to its costal half; the subterminal band oblique from costa to vein 5, bent inwards to lower angle of cell, outwards to near termen at vein 2, and inwards to the submedian fascia. Hind wing dull red, with discoidal, subterminal, and terminal black spots; cilia of both wings pale.

Hab. ignotus. *Exp.* 33 millim. This species is unknown to me; figured from a copy of Stretch's unpublished Het. Am. pl. vi. f. 14.

1955. *Apantesis anna*.

Arctia anna, Grote, Proc. Ent. Soc. Phil. ii. p. 335, pl. 8. f. 1 (1863); Stretch, Zyg. & Bomb. N. Amer. p. 220, pl. 9. f. 6; Kirby, Cat. Het. p. 267.

Arctia persephone, Grote, Proc. Ent. Soc. Phil. ii. p. 433 (1863); Kirby, Cat. Het. p. 267.

♂ (*persephone*). Head and thorax ochreous; palpi, sides of frons, antennæ, and stripes on tegulæ, patagia, and thorax black; pectus, legs, and abdomen black, the last with ochreous lateral stripes. Fore wing black, with ochreous streaks on costa and veins and fasciæ above submedian fold and on inner margin; a bar across end of cell; the postmedial band obtusely angled at vein 4, then oblique, and ending at submedian fascia; the subterminal band

oblique from costa to above vein 5, then running inwards to the postmedial band at vein 4, then to termen at vein 2, and inwards to submedian fascia. Hind wing yellow, with some black below middle of cell and a discoidal lunule; the inner and terminal areas black, the latter intersected by a curved yellow line from vein 4 to termen at submedian fold, and a slight line at submedian fold; cilia ochreous.

Ab. 1. *anna*. Abdomen without ochreous stripes; fore wing without costal ochreous stripe or medial band across the cell; the markings towards apex not extending to costa, and the veins not streaked with ochreous. Hind wing wholly black.

Hab. U.S.A., Atlantic States, 1 ♂. *Exp.* 46 millim.

Egg. Pack. J. N. Y. Ent. Soc. iii. p. 173; Dyar, *Psyche*, 1897, p. 53.

Conoidal, flattened at base and concave; yellowish white, shining, the reticulations very fine, rounded, with shallow pits between.

Larva. Stage 1. Head bilobed, black-brown, the clypeus pale; cervical shield narrow, dusky; body whitish with long dark setæ; warts pale, large; the subprimary warts absent, but wart iii. on abdomen with two hairs; somite 12 with four hairs on subdorsal wart.

Stage 2. Body shaded with red-brown round the dusky warts, which are large except i. and vi.; hairs stiff, black, with a few longer ones posteriorly from subdorsal wart on somite 12.

Stage 3. Body greyish mottled with brown; the warts black; a pale dorsal line; hair abundant, black, barbed.

Stage 4. Body black-brown, with faint pale dorsal and lateral lines; warts shining black with slight pale rings at base; somite 12 with two long white hairs.

Stage 5. Head pale brownish, with black shades on the lobes in front; mouth brown; body black; hair stiff, black, with the two from posterior warts long and white; fine pale dorsal and lateral lines; a whitish dash below wart iii., and the bases of warts iii. to v. slightly reddish.

Stage 6. Head black; base of antennæ and a line above mouth whitish; body velvety black; all the hair black.

Stage 7. Head at sides, clypeus, sutures, and mouth brownish; warts with dull luteous rings at base.

Stage 8. Head as in stage 6. Food-plants, various low plants.

1956. *Apantesis quenseli*.

Bombyx quenselii, Payk. *Skriv. af Nat. Selsk.* ii. 2, p. 99, pl. 2. f. 2 (1793); Geyer, *Eur. Schmett.* ff. 353-355; Dup. *Lép. Fr. Suppl.* iii. p. 51, pl. 4. f. 3; Geyer, *Zutr. ex. Schmett.* v. p. 14, ff. 847, 848; Stretch, *Zyg. & Bomb. N. Am.* p. 222, pl. 9. f. 8; Staud. *Cat.* p. 58; Kirby, *Cat. Het.* p. 270.

Bombyx strigosa, Fabr. *Ent. Syst.* iii. (1) p. 454 (1793).

Euprepia gelida, Möschl. *Stett. ent. Zeit.* ix. p. 174 (1849); Schøyen, *Arch. Math. Naturv.* v. p. 175, f. 3.

Chelonia liturata, Mén. *Bull. Phys.-Math. Pét.* xvii. p. 500 (1859); id. *Cat. Lép. Pét.* iii. p. 149, pl. 15. f. 4; Kirby, *Cat. Het.* p. 271.

Arctia speciosa, Möschl. Wien. ent. Mon. viii. p. 195, pl. 5. ff. 13, 14 (1864); Mill. Icones Léop. ii. p. 20, pl. 53. f. 4; Kirby, Cat. Het. p. 271.

Arctia complicata, Wlk. xxxi. 279 (1864); Kirby, Cat. Het. p. 270.

Arctia quenselii, var. *turbans*, Christ, Iris, v. p. 349 (1892); Alph. Rom. Mém. ix. p. 199, pl. 10. f. 10.

♂. Head and thorax ochreous white; palpi, sides of frons, vertex of head, antennæ, and stripes on tegulæ, patagia, thorax, and shoulders black; some yellow behind the head; pectus and legs black, the fore coxæ and extremity of femora above yellow, tibiæ striped with white; abdomen yellowish white, with broad black dorsal stripe on segmental bands, and lateral and sublateral series of spots. Fore wing black, the costa, veins, and inner margin striped with yellowish white; a fascia above submedian fold; bars across end of cell and beyond the cell; the subterminal band oblique from below costa to near termen above vein 5, bent inwards to lower angle of cell, then outwards to near termen at vein 2 and inwards to the submedian fascia; cilia white. Hind wing black, with some semihyaline markings in and beyond end of cell and streak in submedian fold, sometimes almost obsolete; a subterminal band sometimes present between veins 5 and 1, angled inwards to lower angle of cell and in submedian fold, and to termen at veins 2 and 1; cilia white.

Ab. 1. *complicata*. Fore wing with the bars in and beyond cell continued to the submedian fascia, the latter slightly angled at lower angle of cell.

♀. Head and thorax sometimes and abdomen usually yellower; fore wing with the stripes on the veins broader, the markings often yellower; a curved antemedial band sometimes present; hind wing with the markings yellow and more developed; the subterminal band sometimes complete; the cilia yellow.

Ab. 2. *turbans*. ♂. Hind wing orange-yellow to base, the discoidal, subterminal, and terminal spots black; ♀ with the costal half of basal area black.—Mongolia, Kentei.

Hab. EUROPE, High Alps, Zeller & Frey Colls., Norway, Zeller Coll., Lapland; SIBERIA; MONGOLIA; LABRADOR, 1 ♂, 1 ♀, Frey Coll.; VANCOUVER I., 1 ♂ type *complicata*. *Exp.* 36–40 millim.

1957. *Apantesis virguncula*.

Callimorpha virguncula, Kirby, Richardson's Fauna Bor.-Amer. iv. p. 304, pl. 4. f. 6 (1837); Stretch, Zyg. & Bomb. N. Am. p. 218, pl. 9. f. 5; Kirby, Cat. Het. p. 270.

Arctia dahurica, Grote, Trans. Amer. Ent. Soc. i. p. 336, pl. 6. f. 41 (1868) (nec Boisd.).

Euprepia virguncula, var. *otiosa*, Neum. & Dyar, Ent. News, iv. p. 142 (1893).

Deep orange-yellow; palpi, sides of frons, antennæ, and stripes on tegulæ, patagia, thorax, and shoulders black; pectus with patches of black; legs striped with black; abdomen with dorsal, lateral, and sublateral series of black spots. Fore wing black, with

broad orange stripes on costa, veins, above submedian fold, and on inner margin; the subterminal band oblique from costa to above vein 5, then running inwards to lower angle of cell, then to termen at vein 2 and inwards to submedian fascia; cilia orange-yellow. Hind wing with short black streaks in base of cell and on vein 1; subterminal spots from costa to vein 5 and on veins 2 and 1; a terminal maculate band from apex to vein 3, and spot at submedian fold.

Ab. 1. *otiosa*. Fore wing with slight traces of some of the other bands.

Hab. CANADA, Anticosti I., 1 ♀, Grote Coll., U.S.A., N. Atlantic States. *Exp.* 40 millim.

1958. *Apantesis proxima*.

Chelonia proxima, Guér. Icon. R. Anim. iii. p. 514 (1844); Kirby, Cat. Het. p. 272.

Euprepia doctus, Wlk. iii. 592 (1855); Druce, Biol. Centr.-Am., Het. i. p. 118.

Arctia mexicana, Grote & Rob. Ann. Lyceum N. York, viii. p. 367, pl. 13. f. 3 (1867).

Chelonia antholea, Boisd. Ann. Soc. Ent. Belge, xii. p. 76 (1869); Stretch, Zyg. & Bomb. N. Am. p. 74, pl. 3. ff. 3, 4.

Arctia arizonensis, Stretch, Zyg. & Bomb. N. Am. p. 217, pl. 9. f. 4 (1874); Kirby, Cat. Het. p. 272.

Arctia mormonica, Neum. Ent. Am. i. p. 93 (1885); Kirby, Cat. Het. p. 268.

♂. Head and thorax brownish ochreous; palpi, sides of frons, antennæ, and broad stripes on patagia and thorax black; pectus and legs black, the fore coxæ and spots on femora ochreous; abdomen crimson above with dorsal series of black spots or short bands, the terminal segment black, the ventral surface black with ochreous spots on medial segments. Fore wing black; the costa, median nervure, a fascia above submedian fold from base to termen, and the inner margin ochreous; an antemedial band slightly angled in submedian fold; medial and postmedial bands often confluent from cell to inner margin; the subterminal band arising from costa just beyond the postmedial band, running to termen at vein 5, then to postmedial band at vein 4, then to termen at vein 2, and inwards again to submedian fascia; cilia ochreous. Hind wing ochreous white, the inner area more or less strongly tinged with crimson; ante- and postmedial black spots on costa, a discoidal spot, subterminal spots on veins 5 and 2, and terminal spots on veins 3 and 1, any or all of which may be absent. Underside with the costa of fore wing and base of costa of hind wing orange-yellow.

♀. Abdomen without ventral ochreous spots; fore wing with the ochreous markings darker. Hind wing crimson, with medial black band across cell and spot below it on vein 1; a discoidal lunule; three large, usually confluent subterminal spots, and some spots on termen; cilia yellow.

Hab. U.S.A., Region W. of Rocky Mts. to S. California; MEXICO, Oajaca, 2 ♂ type *doctus*, Jalapa (*Trujillo*), 3 ♂, 3 ♀, Orizaba

(Flöhr), 1 ♀, Mexico (Godman), 1 ♂, Atoyac, 1 ♂, Guerrero (H. H. Smith), 1 ♀, Durango (Becker), 2 ♂, Putzeuaro (Godman), 1 ♂, 1 ♀; GUATEMALA (Champion, Rodriguez, Sallé, Conradt), 5 ♂, 3 ♀; COSTA RICA (Underwood), 5 ♂, 4 ♀, Godman-Salvin Coll. Exp. 38-42 millim.

Larva with the hair red-brown.

*1959. *Apantesis bolanderi*.

Arctia bolanderi, Stretch, Zyg. & Bomb. N. Am. p. 76, pl. 3. f. 13 (1872); Kirby, Cat. Het. p. 268.

♂. Head and thorax whitish; palpi above and sides of frons black-brown; antennæ with the branches brown; vertex of head with brown spot; tegulae, patagia, and thorax with brown stripes; legs striped with brown; abdomen orange, with short dorsal black bands and lateral series of spots, the ventral surface banded black and yellowish white. Fore wing dark brown; the costa whitish to beyond middle, expanding into slight spots near base and before middle; a fascia in submedian fold emitting a slight spur on median nervure; a slight streak on base of vein 1 and a fascia on inner margin; an oblique medial line from costa to below the submedian fascia, where it is nearly joined by the postmedial line, or extending to inner margin; the subterminal line oblique from costa to near termen at vein 5, then retracted to lower angle of cell, bent outwards to near termen at vein 2, then inwards to the submedian fascia; cilia white at tips. Hind wing scarlet or yellow tinged with scarlet; three subterminal brown spots and a narrow terminal band from apex to vein 2.

Ab. 1. Hind wing with brown streaks in and below cell and on vein 1; a spot beyond the cell; the terminal band wide, confluent with the subterminal spots, and extending to vein 1.

Hab. U.S.A., Rocky Mts. and Sierra Nevada. *Exp.* 30-34 millim.

Egg. Dyar, P. Bost. Soc. xxvi. p. 153 (1895).

Rounded, conoidal, flattened at base, smooth, shining orange-yellow: diam. 55 millim.; laid without attachment to any object.

Larva. 1st stage. Head bilobed, black; labrum pale; mouth brown; body whitish, the warts, cervical shield, and feet blackish, the warts each with a long stiff hair; hair black dorsally, pale laterally.

2nd stage. Body brownish, dark subdorsally, defining a whitish dorsal line; warts large and black, with numerous stiff short hairs.

3rd stage. Posterior part of body with some long whitish hairs.

4th stage. Head entirely black with a few hairs; warts and subdorsal area black, leaving pale dorsal and subdorsal lines; hair short, stiff, black, dorsally whitish, subventrally with three or four long white hairs posteriorly.

5th stage. An orange-red dorsal line ending at cervical shield and anal plate.

6th stage. Wholly deep black except the bright red dorsal line, which is yellowish at incisions of segments; hair barbed

except the long posterior hairs; warts of series ii with blue-black bases, of iii, iv with brownish bases; hairs from warts i-iii black, from 4 shading into white, from 5, 6 pale salmon.

7th stage. Bases of warts iii reddish.

8th stage. Body black, mottled with whitish, posteriorly above the black subdorsal band only; warts of series iii reddish; dorsal stripe broad, vermilion, yellowish at incisions; hair black, pale laterally, pinkish subventrally. Food-plant, various low herbs.

Cocoon a coarse network of silk among leaves or other material on the ground, with no hair in its substance.

Pupa cylindrical, rounded, abdominal segments tapering: 18 millim.

Colour blackish mahogany with a white bloom; cremaster short and thick, slightly conical, with a terminal tuft of spiny hooks.

*1960. *Apantesis favorita*. (Plate XLVIII. fig. 4.)

Arctia favorita, Neum. Ent. Am. vi. p. 173 (1890); Kirby, Cat. Het. p. 272.

♂. Head and thorax pale crimson; palpi, frons, antennæ, a spot on vertex of head, and stripes on tegulæ, patagia, and thorax black-brown; pectus black at sides, legs streaked with black; abdomen crimson, with short dorsal black bands and lateral spots, the ventral surface yellowish white with short sublateral bands. Fore wing black; the costa with whitish streak to beyond middle; the subbasal and antemedial bands represented by elongate expansions of the costal fascia and short transverse bars from the submedian fascia; a streak on basal part of vein 1 and a fascia on inner margin; the medial and postmedial bands broad, connected by an oblique bar below costa, largely confluent at middle and extending to below submedian fascia; the subterminal band oblique from costa to near termen at vein 5, bent inwards to lower angle of cell, then outwards to near termen at vein 2, and inwards to the submedian fascia; the pale bands with pink lines on them; cilia whitish. Hind wing deep rose-red, with black costal fascia except at base; subterminal spots above vein 5 and on veins 2 and 1; the terminal band formed by conjoined patches at apex, middle, and above vein 1; cilia whitish.

Ab. 1. Fore wing with the bands absent, except the postmedial and subterminal.

Hab. U.S.A., Rocky Mt. region. *Exp.* 42 millim.

1961. *Apantesis blacei*.

Arctia blakei, Grote, Proc. Ent. Soc. Phil. vol. iii. p. 523, pl. 5. f. 2 (1864); Stretch, Zyg. & Bomb. N. Am. p. 224, pl. 9. f. 9; Kirby, Cat. Het. p. 267.

Arctia nevadensis, Grote & Rob. Proc. Ent. Soc. Phil. vol. vi. p. 1, pl. 1. f. 1 (1866); Kirby, Cat. Het. p. 268.

Arctia behrii, Stretch, Zyg. & Bomb. N. Am. p. 75, pl. 3. ff. 11, 12 (1872).

Arctia incorrupta, H. Edw. Papilio, i. p. 38 (1881).

Arctia ochracea, Neum. Papilio, iii. p. 151 (1883).

Arctia nevadensis, var. *sulphurica*, Neum. Ent. Am. i. p. 93 (1885).

Arctia elongata, Stretch, Ent. Am. i. p. 105 (1885); Kirby, Cat. Het. p. 270.

Arctia shastanensis, French, Can. Ent. xxi. pp. 35, 162 (1889); Kirby, Cat. Het. p. 267.

♂. Head black, with ochreous-white bands across frons and at back; thorax ochreous white, with black fasciæ on tegulæ, patagia, and vertex of thorax; legs banded ochreous white and black; abdomen scarlet with dorsal series of black spots, the terminal segment ochreous with black fascia, the ventral surface ochreous with lateral and sublateral series of black spots. Fore wing black; the costa, a broad fascia in submedian interspace, and the inner margin ochreous white; an oblique subbasal band from costa to submedian fascia; an antemedial band; a medial band joined at vein 2 by a postmedial band; a Σ -shaped band on terminal area connected at three points with the postmedial band. Hind wing pink or scarlet suffused with pink, sometimes with black discoidal lunule; three or four subterminal black spots, increasing in size towards tornus, and usually some marks on termen between apex and vein 2; cilia yellow.

Ab. 1. *nevadensis*. Thorax almost entirely black; fore wing with the bands narrower and whiter; hind wing whitish tinged with pale crimson.

Ab. 2. *ochracea*. Hind wings yellow.

Hab. U.S.A., Rocky Mountain region and west to Pacific, Colorado, 2 ♂. Exp. 44 millim.

Larva. Cocq. J. N. Y. Ent. Soc. vi. p. 250.

Body black with a purplish tinge, ventral surface greyer; a dull white interrupted dorsal line; warts pale grey; hair black and reddish, or black and yellowish, the red and yellow hair most plentiful on middle of dorsal and on sublateral areas; spiracles yellowish brown ringed with black; head black, yellowish between lobes, at sides, base of clypeus, and a dot at base of antennæ; mouth-parts marked with yellow. Food-plants, various low-growing plants, as *Malva borealis*.

*1962. *Apantesis cervinoides*.

Arctia cervinoides, Streck. Proc. Acad. Phil. xxviii. p. 151 (1876); id. Rep. Chief of Engineers, 1878, App. S.S. p. 1860, pl. 2. f. 4; Kirby, Cat. Het. p. 271.

Black; vertex of head and thorax white, the tegulæ, patagia, and thorax with broad black stripes; abdomen black, white at sides, and with the segments broadly edged with white on ventral surface. Fore wing brownish black; a white submedian fascia; the 1st band entire or reduced to traces; the antemedial, medial, and postmedial bands present, the last straight and oblique; the subterminal band oblique from costa to vein 5, then retracted to lower angle of cell, bent outwards to near termen at vein 2, and inwards to the submedian fascia; cilia pale. Hind wing whitish with some fuscous streaks at base, a discoidal spot and terminal band.

Hab. U.S.A., Colorado. *Exp.* 22 millim. This species is unknown to me.

1963. *Apantesis superba*.

Arctia superba, Stretch, Zyg. & Bomb. N. Am. p. 227, pl. 9. f. 12 (1874); Kirby, Cat. Het. p. 268.

Arctia geneura, Stretch, Proc. Dav. Acad. Sci. ii. p. 270, pl. 9. f. 5 (1878); Kirby, Cat. Het. p. 268.

♂. Head black-brown; palpi fringed with ochreous white; frons and back of head with whitish bands; thorax whitish, with black fasciæ on tegulæ, patagia, and vertex of thorax; legs blackish striped with white; abdomen scarlet with dorsal black fascia, the ventral surface ochreous. Fore wing black-brown; the costa, a rather narrow fascia in submedian fold, and the inner margin ochreous white; an oblique subbasal line from costa to submedian fascia usually present; an antemedial spur from costa, often reduced; a medial line from below costa to the fascia, where it is joined by a similar postmedial line, and is sometimes continued to inner margin; a Σ -shaped band on terminal area from costa to submedian fascia, connected at two points with the postmedial line. Hind wing crimson; black fasciæ on costa and inner area, a discoidal spot and spots at origin of vein 2 and on middle of vein 1; a rather broad terminal band with irregular inner edge.

Hab. BRITISH COLUMBIA, Fraser R. (*St. John*), 1 ♂, Vancouver I.; U.S.A., Colorado. *Exp.* 34 millim.

1964. *Apantesis williamsi*. (Plate XLVIII. fig. 10.)

Arctia williamsi, Dodge, Can. Ent. iii. p. 167 (1871); Kirby, Cat. Het. p. 268.

Arctia determinata, Neum. Pap. i. p. 28 (1881); Kirby, Cat. Het. p. 268.

Arctia dieckii, Neum. Ent. Am. vi. p. 62 (1890); Kirby, Cat. Het. p. 270.

♂. Head and thorax pinkish white; palpi, sides of frons, vertex of head, and stripes on tegulæ, patagia, and thorax black; antennæ brown; pectus and legs pinkish and black; abdomen pinkish, with broad black-brown dorsal stripe, lateral and some sublateral black spots. Fore wing dark brown; the basal half of costal edge pinkish; a pinkish fascia above submedian fold not reaching termen; a spot in end of cell and sometimes one at upper angle; an oblique postmedial band from below costa to the submedian fascia; the subterminal band oblique from below costa to above vein 5, then running inwards to the postmedial band at vein 4, then to vein 2 near termen and inwards to submedian fascia. Hind wing brown, with more or less developed pink streaks in cell and submedian fold, a patch beyond the cell; cilia pinkish.

Ab. 1. *determinata*. Fore wing with the spot in cell developed into a band reaching submedian fascia.

Hab. BR. COLUMBIA; U.S.A., Nevada, 2 ♂, Grote Coll., Colorado (*Cockerell*), 3 ♂. *Exp.* 28 millim.

1965. *Apantesis phyllira*.

Callimorpha phyllira, Drury, Ill. Exot. Ent. i. pl. 7. f. 2 (1773); Kirby, Cat. Het. p. 267.

Nemophila figurata, Drury, Ill. Exot. Ent. ii. pl. 12. f. 4 (1773); Kirby, Cat. Het. p. 269.

Geometra B-atra, Goeze, Ent. Beytr. iv. (3) p. 428 (1781).

Bombyx plantagina, Martyn, Psyche, pl. 15. ff. 36-7, ined.

Euplagia ceramica, Hübn. Verz. p. 180 (1827).

Arctia celia, Saund. Proc. Ent. Soc. Phil. ii. p. 59 (1863).

Arctia f-pallida, Streck. Rep. Chief Eng. 1878, App. S.S. p. 1860; Kirby, Cat. Het. p. 268.

Arctia dodgei, Butl. Ent. Mo. Mag. xviii. p. 136 (1881); Kirby, Cat. Het. p. 268.

Arctia excelsa, Neum. Pap. iii. p. 70 (1883); Kirby, Cat. Het. p. 269.

Arctia lugubris, Hulst, Ent. Am. ii. p. 182 (1887).

Arctia franconia, H. Edw. Ent. Am. iii. p. 184 (1888); Kirby, Cat. Het. p. 269.

Head and thorax pinkish white; palpi, sides of frons, antennæ, and stripes on tegulæ, patagia, and thorax black, neck with some crimson; pectus and legs black, fore femora above and bands on tibiæ crimson; abdomen crimson above, with dorsal maculate fascia and lateral series of spots, the terminal segment and ventral surface black. Fore wing black; pinkish fasciæ on costa, above submedian fold, and on inner margin; an oblique medial band from costa to submedian fascia, sometimes reduced to a discoidal bar; an inwardly oblique postmedial band from costa to submedian nervure; the subterminal band oblique from costa to near termen above vein 5, then running to postmedial band at vein 4, then to termen at vein 2, and inwards to submedian fascia which sometimes does not reach termen; cilia pinkish. Hind wing deep crimson; the costal area black except at base, emitting a discoidal lunule, and a subterminal bar to vein 5; a spot on vein 2 and another on termen at vein 1; a terminal band angled inwards at vein 4; cilia pinkish in places.

Ab. 1. *dodgei*. Fore wing with the medial band absent, the subterminal interrupted in places.

Ab. 2. *figurata*. Fore wing with the subterminal band absent or reduced to short streaks from postmedial band at vein 4; hind wing with broad terminal band replacing the spots.

Ab. 3. *celia*. Hind wing partly yellowish.

Ab. 4. *excelsa*. Fore wing with the medial and postmedial bands not reaching costa, the subterminal band reduced to a <-mark; hind wing black; vertex of head orange, the rest of pale markings yellowish white.

Hab. U.S.A., Southern States to New York and New England, Virginia, 6 ♂, 1 ♀, Grote Coll., ♀ type *dodgei*, Colorado (*Bruce*), 1 ♂. *Exp.*, ♂ 40, ♀ 46 millim.

Larva. Pack, J. N. Y. Ent. Soc. iii. p. 178.

Stage 1. Head black; body amber-yellow, the tubercles dark brown, the two median ones minute, the two subdorsal large, the two dorsal series one-haired, the subdorsal two-haired; 2nd and 3rd

somites with the 2nd dorsal series two-haired, the series below it with one hair on the segments with legs; the dorsal hair black, the lateral greyish; prothoracic plate dark, subcrenate.

Stage 2. Dorsal tubercles black, with ten or twelve spinulate hairs; a dorsal series of whitish spots beginning on somite 2 and a similar subdorsal series; lateral tubercles dusky amber; prothoracic plate with dark dorsal tubercles.

Stage 3. Body black; a dorsal white stripe; a livid subdorsal line; hair black, with a few small white ones.

Stage 4. No subdorsal line; sides of body livid, with three series of tubercles.

Stage 5. Dorsal stripe yellowish, narrow, with a broad black band on each side, sides of body livid; the upper subdorsal tubercles pale, shining, black at base.

Stage 6. Lateral tubercles dull amber.

Stage 7. Dorsal and subdorsal tubercles pale whitish clay-colour.

1966. *Apantesis vittata*.

Bombyx vittata, Fabr. Mant. Ins. ii. p. 127 (1787); Kirby, Cat. Het. p. 269.

Arctia phalerata, Harr. Ins. Mass. p. 245 (1841).

Apantesis radians, Wlk. iii. 632 (1855).

Arctia decorata, Saunders, Proc. Ent. Soc. Phil. ii. p. 60 (1863).

Arctia colorata, Wlk. xxxi. 301 (1864).

Arctia rhoda, Butl. Ent. Mo. Mag. xviii. p. 136 (1881); Kirby, Cat. Het. p. 268.

Arctia ochreatea, Butl. Ent. Mo. Mag. xviii. p. 136 (1881); Kirby, Cat. Het. p. 269.

Arctia phalerata, var. *incompleta*, Butl. A. M. N. H. (5) viii. p. 311 (1881).

Head and thorax ochreous; palpi, sides of frons, antennæ, and stripes on tegulæ, patagia, and thorax black; pectus and legs black; abdomen yellow above tinged with crimson towards base, with



Fig. 164.—*Apantesis vittata*, ♂. †.

broad black dorsal stripe and the ventral surface black. Fore wing black, with ochreous-white fascia on costa to the postmedial band and fasciæ above submedian fold and on inner margin; the postmedial band oblique from costa to vein 4, where it is strongly angled, then running along median nervure to middle of submedian fascia; the subterminal band oblique from costa to termen above vein 5, then running to postmedial band at vein 4, then to termen at vein 2, and inwards to submedian fascia; cilia ochreous. Hind

wing pale ochreous, the base and inner area tinged with crimson; the costal area black, except towards base; a discoidal spot often present; a subterminal spot above vein 5, sometimes conjoined to costal fascia, spots on vein 2 and above 1, and sometimes one on middle of termen.

Ab. 1. *incompleta*. Fore wing with the upper arm of the subterminal band absent.

Ab. 2. Hind wing without subterminal and terminal spots.

Ab. 3. *decorata*. Hind wing with the markings of terminal area confluent, and forming a very broad band with very irregular inner edge; tegulæ without stripes.

Ab. 4. *ochreata*. Abdomen and hind wing orange-yellow, without crimson tinge; tegulæ without stripes.

♀. Head, thorax, and markings of fore wing more orange-yellow; abdomen scarlet; hind wing deep crimson, with the markings large.

Ab. 1. Fore wing with the subterminal band absent or reduced to short streaks near vein 4, the terminal half of submedian fascia obsolescent; hind wing with irregular terminal band.

Ab. 2. Fore wing with the upper part of postmedial band also absent.

Ab. 3. *radians*. Fore wing with the markings reduced to narrow fasciæ on costa and inner margin, and above basal part of submedian fold.

Hab. U.S.A., Atlantic States, New York (*Packard*), 10 ♂, 3 ♀, types *rhoda*, *ochreata*, and *incompleta*, Washington, 1 ♂, Buffalo, 1 ♂, Grote Coll.; Georgia, 2 ♀ types *radians* and *colorata*; FLORIDA, Miami (*Schaus*), 1 ♂, 1 ♀. *Exp.* 34-44 millim.

1967. *Apantesis nais*.

Spilosoma nais, Drury, Ill. Ex. Ent. i. pl. 7. f. 3 (1773); Kirby, Cat. Het. p. 268.

Bombyx cuneata, Goeze, Ent. Beytr. iv. (3) p. 65 (1781).

Bombyx defloriana, Martyn, Psyche, pl. 28. ff. 78-9, ined.

♂. Head and thorax ochreous; palpi, sides of frons, antennæ, and stripes on patagia and thorax and sometimes the tegulæ black; pectus and legs black, sometimes with some ochreous on fore coxæ; abdomen yellow above, with broad dorsal black stripe and the ventral surface black. Fore wing black, with ochreous-white stripe below costa to the postmedial band; fasciæ above submedian fold and on inner margin; the postmedial band oblique from costa to vein 4, then angled backwards along median nervure to middle of submedian fascia; the subterminal band oblique from below costa to or to near termen above vein 5, then running to postmedial band at vein 4, then to termen at vein 2, then inwards to submedian fascia; cilia ochreous. Hind wing ochreous white, the inner area more yellow; the costal area black, except towards base; a discoidal spot usually present; a subterminal spot above vein 5 con-

joined to costal fascia, large spots on veins 2 and 1 and a spot on middle of termen.

Ab. 1. Abdomen and hind wing suffused with crimson; the latter sometimes on inner area only.

Ab. 2. The subterminal band aborted.

Hab. U.S.A., Atlantic States, Zeller and Grote Colls., 12 ♂, Virginia, Grote Coll., 1 ♂. *Exp.* 34–40 millim.

1968. *Apantesis placentia*.

Phalena placentia, Abb. & Smith, Lep. Ins. Georgia, ii. pl. 65 (1797); Kirby, Cat. Het. p. 269.

Arctia snowi, Grote, Can. Ent. vii. p. 197 (1875); Kirby, Cat. Het. p. 269.

Arctia quadranotata, Streck. Proc. Dav. Acad. Sci. ii. p. 271, pl. 9. f. 6 (1878); Kirby, Cat. Het. p. 269.

Arctia flammea, Neun. Papilio, i. p. 9 (1881); Kirby, Cat. Het. p. 269.

♀. Black; abdomen scarlet above, except on terminal segments, and with a dorsal series of black spots. Fore wing with yellowish-white spot in end of cell usually present, and sometimes one just beyond the discocellulars; a postmedial spot above vein 5 or series of four spots between veins 6 and 3; sometimes slight traces of the subterminal Σ -shaped band; cilia sometimes whitish towards apex and tornus. Hind wing scarlet; the costal area black; a black discoidal spot; a subterminal series of spots more or less conjoined to a narrow terminal band, or coalescing so as to form a broad terminal band with sinuous inner edge.

Ab. 1. *flammea*. Fore wing with the pale spots more developed.

Ab. 2. *snowi*. Hind wing mostly black.

Hab. U.S.A., S. States to Mississippi Valley, Texas, 3 ♀, Zeller Coll. *Exp.* 44–52 millim.

1969. *Apantesis fasciata*.

Bombyx fasciata, Esp. Schmett. iii. p. 178, pl. 33. f. 3 (1784); De Vill. Ent. Linn. ii. p. 152, pl. 5. f. 4; Godt. Léop. Fr. iv. p. 310, pl. 31. ff. 3, 4; Mill. Ann. Soc. Linn. Lyon, xvi. p. 21, pl. 86. f. 11; Staud. Cat. p. 57; Kirby, Cat. Het. p. 272.

Bombyx tigrina, De Vill. Ent. Linn. ii. p. 159, pl. 5. f. 5 (1789).

Bombyx gratus, Hübn. Eur. Schmett. ii. f. 133 (1827).

Arctia fasciata, var. *esperi*, Staud. Berl. ent. Zeit. xiv. p. 103 (1870).

Chelonia oberthuri, Oberth. Ét. Ent. xiii. p. 27, pl. 7. ff. 47, 48 (1890).

Head and thorax black-brown; basal joint of antennæ crimson; neck with crimson ring; tegulæ white in front; patagia white at sides; femora crimson above; abdomen crimson, with dorsal and lateral series of black spots and patch on terminal segment, the ventral surface with more or less developed bands or wholly black. Fore wing cream-colour; a black point at base of costa; subbasal black points below costa and cell and a patch on inner margin; an antemedial band usually angled in submedian fold, sometimes conjoined on inner margin to the medial band, which may be complete

or interrupted below the cell, or forking towards costa by being confluent with the postmedial band below the cell, this band being either complete and angled inwards on vein 2, or interrupted below the cell, or not reaching inner margin; conjoined subterminal spots from costa to vein 4 and a spot from vein 2 to inner margin; a large apical spot and spots on veins 3, 4. Hind wing orange-yellow, the costal and inner areas and the terminal area irregularly suffused with scarlet; a medial black band usually present from costa to median nervure, sometimes with a spot below it on vein 1; a subterminal band from costa to vein 4, often spots on veins 2 and 1, and sometimes one or two points on middle of termen.

Ab. 1. *esperi*. Fore wing with the medial and postmedial bands entirely conjoined.

Ab. 2. *oberthuri*. Hind wing crimson, with some yellow on costal area and round the black spots.

Hab. S. EUROPE, S. France, Zeller and Frey Colls., Spain, Portugal. *Exp.*, ♂ 50, ♀ 56 millim.

Larva. Black-brown; the hair from the lateral warts rufous.

Genus CODIOSOMA.

Kodiosoma, Stretch, Zyg. & Bomb. N. Am. i. p. 67 (1872)..... Type. *fulva*.

Proboscis absent; palpi porrect, reaching well beyond the frontal tuft and clothed with long hair; antennæ of male bipectinate, the branches very short towards base; head, thorax, and abdomen clothed with long woolly hair; tibiæ with the spurs very short. Fore wing elongate, narrow; vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from or from close to angle of cell; 5 from above angle or from angle, rarely shortly stalked with 4; 6, 7 from upper angle; 8 from middle of cell.

1970. *Codiosoma fulva*.

Kodiosoma fulva, Stretch, Zyg. & Bomb. N. Am. p. 67, pl. 2. f. 7 (1872); Kirby, Cat. Het. p. 244.

Kodiosoma tricolor, Stretch, Zyg. & Bomb. N. Am. p. 68, pl. 2. f. 5 (1872); Kirby, Cat. Het. p. 244.

Kodiosoma nigra, Stretch, Zyg. & Bomb. N. Am. p. 68, pl. 2. f. 8 (1872); Kirby, Cat. Het. p. 244.

Kodiosoma eavesii, Stretch, Zyg. & Bomb. N. Am. p. 69, pl. 2. f. 6 (1872); Kirby, Cat. Het. p. 244.



Fig. 165.—*Codiosoma fulva*, ♂. 1.

♂. Head and thorax black-brown; tegulæ and shoulders ochreous white; tibiæ and tarsi ochreous white above, fore femora crimson

above; abdomen orange, with traces of a maculate black dorsal line, the ventral surface black. Fore wing black-brown; the costal edge ochreous white; traces of a whitish line from costa to lower angle of cell and from origin of vein 2 to inner margin; the disk thinly scaled. Hind wing orange; the apical area black-brown, broad at costa, narrowing to a point at submedian fold; the disk thinly scaled; a yellowish costal fascia on underside.

Ab. 1. *tricolor*. Hind wing crimson.

Ab. 2. Hind wing wholly black.

a. *nigra*. Abdomen with the extremity orange.

b. *eavesi*. Abdomen with the extremity black.

Hab. U.S.A., California, 3 ♂. *Exp.* 24 millim.

Genus **HYPOMOLIS**, nov.

Type, *H. evippus*.

Proboscis aborted, minute; palpi porrect, not reaching beyond the frons, which is clothed with rough hair; thorax and abdomen clothed with long hair; hind tibiæ with the medial spurs absent. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 2 from middle of cell; 3 and 5 from angle; 4 absent; 6, 7 from upper angle; 8 from before middle of cell.

SECT. I. Antennæ of male bipectinate, with extremely short branches.

1971. **Hypomolis evippus**.

Idalus evippus, Druce, A. M. N. H. (7) i. p. 212 (1898).

♂. Blue-green; palpi, frons, and neck orange-yellow; sides of frons and antennæ black; pectus, fore coxæ, and inner side of femora and tibiæ orange; the rest of legs green, with black rings



Fig. 166.—*Hypomolis evippus*, ♂. $\frac{1}{2}$.

on tarsi. Fore wing thinly scaled; the costa orange. Hind wing semihyaline; cilia of both wings yellow.

Hab. BOLIVIA (*Garlepp*), 1 ♂, type † in Coll. Druce, Chaco, 1 ♂. *Exp.* 40 millim.

SECT. II. Antennæ of male minutely serrate and ciliated.

*1972. *Hypomolis rubricosta*.

Phragmatobia rubricosta, Dognin, Lép. Loja, p. 51, pl. 4. f. 14 (1891); Kirby, Cat. Het. pp. 246, 911.

♂. Head and thorax brown; palpi and slight marks on sides of frons orange-red; pectus and coxæ ochreous and red; tibiæ and tarsi brown; abdomen ochreous. Fore wing ochreous, slightly suffused with brown; the costal area tinged with purplish red, with a small black antemedial spot, a larger medial spot, and a sinuous postmedial line from costa to vein 6; the inner area tinged with



Fig. 167.—*Hypomolis rubricosta*, ♂. 1.

purplish, with some darker suffusion before middle and indistinct medial and postmedial lines from submedian fold to inner margin. Hind wing ochreous.

♀. Fore wing redder, more uniformly suffused with brown; very indistinct antemedial, medial, and postmedial lines angled at middle; hind wing pale dull crimson.

Hab. ECUADOR, Loja, in Coll. Schaus. *Exp.*, ♂ 40, ♀ 42 millim.

Genus **PYGARCTIA**.

Pygarctia, Grote, Can. Ent. iii. p. 124 (1871)..... *Type.*
abdominalis.

Proboscis aborted, minute; palpi porrect, extending to just beyond frons; antennæ of male bipectinate with the branches short; tibiæ with the spurs short, fore tibiæ with curved apical claw; abdomen smoothly scaled. Fore wing with vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 from just above angle; 6, 7 from upper angle; 8 from towards end of cell.

- | | |
|---|----------------------|
| A. Fore wing with scarlet fasciæ on costa and inner margin... | <i>syragei</i> . |
| B. Fore wing with orange fasciæ on costa and inner margin. | |
| <i>a.</i> Abdomen scarlet | <i>vivida</i> . |
| <i>b.</i> Abdomen orange | <i>abdominalis</i> . |
| C. Fore wing without fasciæ | <i>elegans</i> . |

1973. *Pygarctia spraguei*. (Plate XLVIII. fig. 13.)

Euchætes spraguei, Grote, Can. Ent. vii. p. 200 (1875); Kirby, Cat. Het. p. 236.

Euchætes conspicua, Neum. Ent. Am. vi. p. 173 (1890); Kirby, Cat. Het. p. 237.

♂. Head and thorax leaden grey; base of palpi, sides of frons, back of head, short stripes on thorax above patagia, and fore coxæ scarlet; abdomen scarlet above, fuscous below, with dorsal and lateral series of black spots; wings grey-brown. Fore wing with scarlet fascia on costa, narrowing to a point just before apex, and a narrow fascia on inner margin.

Hab. U.S.A., Colorado, 1 ♂ type, Grote Coll. *Exp.* 40 millim.

1974. *Pygarctia vivida*. (Plate XLVIII. fig. 3.)

Euchætes vivida, Grote, Papilio, ii. p. 131 (1882); Kirby, Cat. Het. p. 236.

♂. Head and thorax grey-brown; palpi except at tips, sides of frons, two spots on vertex of head, upper edge of patagia and thorax below them, and fore and mid coxæ crimson; abdomen scarlet, with slight dorsal black spots on medial segments and a lateral series, the ventral surface grey. Fore wing grey-brown; yellow fasciæ on costa and inner margin, the former tinged with crimson towards extremity, the latter towards base. Hind wing yellowish, the terminal area more or less broadly tinged with fuscous.

Hab. U.S.A., Texas, 1 ♂. *Exp.* 36 millim.

*1975. *Pygarctia abdominalis*. (Plate XLVIII. fig. 12.)

Pygarctia abdominalis, Grote, Can. Ent. iii. p. 124 (1871); Kirby, Cat. Het. p. 236.

Head and thorax pale slate-grey; base of palpi, sides of frons, back of head, short stripes on thorax above patagia, and fore coxæ yellow; abdomen orange-yellow above, fuscous below, with dorsal and lateral series of black spots; wings pale slate-grey. Fore wing with pale yellow costal fascia narrowing to a point just before apex and a narrow fascia on inner margin.

Hab. U.S.A., Florida. *Exp.*, ♂ 35, ♀ 45 millim. This species is unknown to me, figured from a drawing sent me by Prof. Dyar.

1976. *Pygarctia elegans*.

Euchætes elegans, Stretch, Zyg. & Bomb. N. Am. p. 189, pl. 8. f. 6 (1874); Wheeler's Rep. Surv. W. 100th Merid. v. p. 797, pl. 40. ff. 5, 6; Kirby, Cat. Het. p. 236.

Euchætes elegans, var. *roseicapitis*, Neum. & Dyar, J. N. Y. Ent. Soc. ii. p. 166 (1893).

Eupseudosoma involutum, Druce, Biol. Centr.-Am., Het. ii. p. 391 (nec Sepp).

White; palpi scarlet, black at tips; neck with crimson ring;

fore coxæ scarlet; abdomen scarlet with dorsal and lateral series of black points, the anal tuft white in female.



Fig. 168.—*Pygartia elegans*, ♂. †.

Ab. 1. *roseicapitis*. Upper part of frons and vertex of head crimson.

Hab. U.S.A., California, N. Mexico; MEXICO, Presidio (*Forrer*), 1 ♂, 1 ♀, Durango (*Becker*), 1 ♀, Guerrero (*H. H. Smith*), 1 ♂, Tepic, 1 ♂, Jalisco (*Richardson*), 2 ♂, Yucatan (*Gaumer*), 1 ♀; GUATEMALA (*Rodriguez*), 1 ♂; PANAMA, Bugaba (*Champion, Walker*), 3 ♀; COLOMBIA, Bogotá (*Vergara*), 1 ♀. *Exp.* 36–38 millim.

Genus STENARCTIA.

Type.

Stenarctia, Auriv. Ent. Tidskr. 1899, p. 244 *quadripunctata*.

Proboscis aborted; palpi porrect to just beyond frons, the 2nd joint long, the 3rd minute; antennæ of male bipectinate; tibiæ with the spurs well developed; abdomen elongate, dorsally clothed with rough hair. Fore wing rather narrow, vein 3 from before angle of cell; 5 from above angle; 6 from well below upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from angle of cell; 4, 5 stalked; 6, 7 from upper angle; 8 from middle of cell.

*1977. *Stenarctia quadripunctata*.

Stenarctia quadripunctata, Auriv. Ent. Tidskr. 1899, p. 244.

♂. Fuscous grey; frons black; a pink tuft at base of antennæ; head red behind; tegulæ with black points; legs pale with black streaks, the fore coxæ with some red hair; abdomen yellowish, with two dorsal, two lateral, and one ventral series of black spots, the extremity with some red hair. Fore wing fuscous at base of inner margin; traces of an antemedial fuscous band; two medial black spots on costa, with smaller spots below them and obscure bands from cell to inner margin. Hind wing pale yellowish, the apex and terminal area slightly suffused with fuscous.

Hab. CAMEROONS, Ogové R., type ♂ in Coll. Staudinger. *Exp.* 32 millim. This species is unknown to me.

Genus EUCHÆTES.

Type.

Euchætes, Harris, Ins. Mass. p. 257 (1841) *ægle*.

Proboscis aborted, minute; palpi porrect to just beyond the frons; antennæ bipectinate, with moderate branches in male, with very short branches in

female; tibiæ with the spurs moderate. Fore wing with vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with veins 3, 4, 5 from angle of cell; 6, 7 from upper angle; 8 from beyond middle of cell.

- | | |
|--|----------------------|
| A. Fore wing with white fascia below cell joined by an oblique maculate band from below apex | <i>rizoma</i> . |
| B. Fore wing without white fascia below cell or maculate band. | |
| <i>a</i> . Abdomen red above. | |
| <i>a</i> ¹ . Fore wing with costal fascia. | |
| <i>a</i> ² . Fore wing with the costal fascia yellow | <i>antica</i> . |
| <i>b</i> ² . Fore wing with the costal fascia white | <i>albicosta</i> . |
| <i>b</i> ¹ . Fore wing without costal fascia. | |
| <i>a</i> ² . Hind wing with crimson patch on inner area..... | <i>perlevis</i> . |
| <i>b</i> ² . Hind wing without crimson patch on inner area. | |
| <i>a</i> ³ . Fore wing strongly irrorated with brown | <i>expressa</i> . |
| <i>b</i> ³ . Fore wing uniform brownish..... | <i>murina</i> . |
| <i>c</i> ³ . Fore wing white, tinged with fuscous | <i>bolteri</i> . |
| <i>b</i> . Abdomen orange above. | |
| <i>a</i> ² . Fore wing grey-brown | <i>egle</i> . |
| <i>b</i> ² . Fore wing brownish white with the veins white..... | <i>oregonensis</i> . |
| <i>c</i> . Abdomen whitish above | <i>pudens</i> . |

1978. *Euchætès rizoma*. (Plate XLVIII. fig. 21.)

Phæoptera rizoma, Schaus, J. N. Y. Ent. Soc. iv. p. 140 (1896).

♀. Head and thorax black; frons with white band; basal joint of antennæ crimson; shoulders with white bands, patagia with white stripe; sides of thorax crimson; coxæ with crimson points; abdomen crimson, with dorsal black fascia formed of triangular patches and with dorsal bands on last four segments, a lateral series of spots, the ventral surface black with sublateral series of white spots. Fore wing fuscous black, with white fascia below the cell, then running as a series of spots in the interspaces to just below apex; subterminal striæ above veins 2 and 3. Hind wing fuscous black, with some crimson at base; three obliquely placed white subapical spots sometimes much reduced, a postmedial spot or a patch or fascia from base often present in submedian fold.

Hab. BRAZIL, Castro Paraña, 1 ♀. *Exp.* 42 millim. Type † in Coll. Schaus.

1979. *Euchætès antica*. (Plate XLVIII. fig. 7.)

Halesidota antica, Wlk. vii. 1708 (1856); Druce, Biol. Centr.-Am., Het. ii. p. 365; Kirby, Cat. Het. p. 211.

Euchætès zonalis, Grote, Papilio, ii. p. 131 (1882); Kirby, Cat. Het. p. 236.

♀. Head and thorax fuscous brown; back of head with crimson spots; tegulæ in front and stripes on shoulders yellow; fore coxæ crimson behind; abdomen crimson with dorsal black bands, the anal tuft yellow or tinged with yellow, the ventral surface fuscous brown; fore wing with a yellow costal fascia narrowing to a point before apex.

Hab. U.S.A., Arizona; MEXICO, Vera Cruz, type in Mus. Oxon., Presidio (*Forrer*), 1 ♀; NICARAGUA, Chontales (*Belt*), 1 ♀, Godman-Salvin Coll. *Exp.* 44-48 millim.

1980. *Euchætès albicosta*.

Phragmatobia albicosta, Wlk. iii. 630 (1855); Druce, Biol. Centr.-Am., Het. ii. p. 364, pl. 73. f. 18; Kirby, Cat. Het. p. 206.

Euchætès fumidus, H. Edw. Pap. iv. p. 61 (1884); Kirby, Cat. Het. p. 236.

Euchætès scepisiformis, Graef, Ent. Am. iii. p. 43 (1887); Kirby, Cat. Het. p. 237.

♂. Head and thorax fuscous black; back of head with crimson spots, front of tegulæ white; shoulders striped with white, with crimson spot below them; fore coxæ with crimson patch; abdomen deep crimson with dorsal series of black spots, the ventral surface black; wings fuscous black; hind wing with a semihyaline streak below base of cell.

♀. Abdomen sometimes with segmental lines, the anal tuft and ventral surface white, the latter often suffused with fuscous; fore wing with white costal fascia narrowing to a point before apex.

Hab. U.S.A., Texas; MEXICO, Oajaca, 3 ♀ type, Jalapa (*Trujillo*), 1 ♂, 4 ♀, Coatepec (*Brooks*), 2 ♀, Godman-Salvin Coll. *Exp.*, ♂ 34, ♀ 36-54 millim.

*1981. *Euchætès perlevis*. (Plate XLVIII. fig. 19.)

Euchætès perlevis, Grote, Papilio, ii. p. 131 (1882); Kirby, Cat. Het. p. 236.

♂. Grey-brown; back of head with crimson spots; fore coxæ crimson in front; abdomen crimson with dorsal series of black points, the ventral surface whitish. Fore wing irrorated with darker scales. Hind wing with the inner area crimson to discal fold, leaving the costal and terminal area brown except below vein 1.

Hab. U.S.A., Arizona, in Mus. U.S.A. *Exp.* 28 millim.

1982. *Euchætès expressa*. (Plate XLVIII. fig. 20.)

Antaretia expressa, H. Edw. Papilio, iv. p. 60 (1884); Kirby, Cat. Het. p. 246.

♂. Head, thorax, and fore wing grey-brown, thickly irrorated with dark brown; antennæ blackish; fore coxæ crimson at sides; abdomen scarlet with dorsal and lateral series of black spots, the ventral surface grey-brown. Fore wing with obscure discoidal spot. Hind wing black-brown.

Hab. MEXICO, Vera Cruz, in Coll. Schaus. *Exp.* 32-44 millim.

Subsp. 1. Paler and varying from grey-brown to grey.

Hab. MEXICO, Oaxaca, Jalapa, in Coll. Schaus.

Subsp. 2. Paler grey; hind wing nearly pure white.

Hab. COSTA RICA, S. Francisco, 1 ♂, 1 ♀.

*1983. *Euchætës murina*. (Plate XLVIII. fig. 17.)

Euchætës murina, Stretch, Ent. Am. i. p. 106 (1885); Kirby, Cat. Het. p. 236.

♀. Pale grey-brown; palpi at base, back of head, upper edge of patagia, and lateral patches on metathorax crimson; abdomen orange-red with dorsal and lateral series of black spots, the ventral surface grey-brown. Wings pale grey-brown; fore wing with the edges of costal and inner margins whitish; the discocellulars whitish.

Hab. U.S.A., Texas, Coll. Schaus. *Exp.* 32 millim.

*1984. *Euchætës bolteri*. (Plate XLVIII. fig. 6.)

Euchætës bolteri, Stretch, Ent. Am. i. p. 106 (1885); Kirby, Cat. Het. p. 236.

♀. Head and thorax white; palpi, antennæ, and legs fuscous brown; palpi at base, neck, and fore coxæ behind crimson; abdomen scarlet, with dorsal and lateral series of black spots, the extremity and ventral surface dirty white. Fore wing white, tinged with fuscous, especially towards termen; traces of a discoidal spot. Hind wing fuscous brown.

Hab. U.S.A., Texas, Coll. Schaus. *Exp.* 42 millim.

1985. *Euchætës egle*.

Spilosoma egle, Drury, Ill. Ex. Ent. ii. pl. 20. f. 3 (1773); Stretch, Zyg. & Bomb. N. Am. p. 185, pl. 8. f. 4; Kirby, Cat. Het. p. 236.

Brownish grey; fore coxæ yellow; abdomen orange above, white below, with dorsal and two lateral series of black spots. Fore



Fig. 169.—*Euchætës egle*, ♂. 1.

wing slightly irrorated with grey-brown scales. Hind wing slightly tinged with fuscous.

Hab. U.S.A., W. States, Massachusetts, 5 ♂, 3 ♀, Grote Coll. *Exp.*, ♂ 40, ♀ 52 millim.

1986. *Euchætës oregonensis*.

Euchætës oregonensis, Stretch, Zyg. & Bomb. N. Am. p. 187, pl. 8. f. 7 (1874); Kirby, Cat. Het. p. 236.

White, tinged with brown; head orange; palpi and antennæ blackish; shoulders with orange patches; fore coxæ orange, with

fuscous patches; abdomen orange above, white at extremity and on ventral surface, dorsal and lateral series of black spots; wings with the veins white.

Hab. U.S.A., Oregon, 1 ♀, Grote Coll., Jacksonville (*Walsingham*), 1 ♀, California, Rouge R. (*Walsingham*), 2 ♂, 2 ♀. *Exp.* 48 millim.

1987. *Euchætēs pudens*. (Plate XLVIII. fig. 5.)

Euchætēs pudens, H. Edw. Papilio, ii. p. 126 (1882); Kirby, Cat. Het. p. 237.

♂. Brownish white; palpi fuscous; neck with orange ring; abdomen with dorsal and lateral series of black points; fore wing tinged with brown; hind wing whiter; cilia of both wings white.

♀. Whiter; abdomen with the dorsal spots absent.

Hab. U.S.A., Texas, 1 ♂, 1 ♀, Grote Coll. *Exp.*, ♂ 30, ♀ 32 millim.

Genus **CHLORHODA**, nov.

Type, *C. rufoviridis*.

Proboscis minute; palpi porrect, reaching just beyond frons; antennæ of female ciliated; tibiae with the spurs small; abdomen dorsally clothed with rough hair towards base. Fore wing with vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with veins 3 and 5 from angle of cell; 4 from 3 near margin in female, coincident in male; 6, 7 from upper angle; 8 from middle of cell.

1988. *Chlorhoda rufoviridis*.

Idalus rufoviridis, Wlk. xxxi. 285 (1864); Kirby, Cat. Het. p. 198.

♀. Head and thorax apple-green; palpi, neck, pectus, and legs crimson; tarsal joints ringed with black; abdomen crimson. Fore wing apple-green, the costa and inner margin edged with crimson; some black points near base; antemedial black points in cell and on inner margin; a fine sinuous postmedial black line strongly



Fig. 170.—*Chlorhoda rufoviridis*, ♀. †.

excurred from below costa to vein 4 and incurved above vein 1; cilia yellow. Hind wing crimson, with some subterminal black scales on vein 2 and some on termen at vein 1*b*. Underside of fore wing suffused with crimson to beyond middle, the terminal area yellow, an oblique black striga from costa beyond middle.

♂. Hind wing semihyaline yellowish white, the inner area only tinged with pink.

Hab. COLOMBIA, Bogotá (*Stevens*), 1 ♀ type; PERU, Riaja (*Garlepp*). *Exp.*, ♂ 34, ♀ 48 millim.

Genus SEIRARCTIA.

Seirarctia, Pack. Proc. Ent. Soc. Philad. iii. p. 119 (1864) Type. *echo*.

Proboscis fully developed; palpi short, porrect; head and thorax clothed with long woolly hair; antennæ of male with moderate branches, of female with very short branches; fore tibiæ with long curved claw on outer side and short claw on inner side; hind tibiæ with the medial spurs absent. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 free. Hind wing with vein 3 from near angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

A. Fore wing white, with dark streaks on each side of the veins *echo*.

B. Fore wing flesh-colour irrorated with black *clara*.

*1989. *Seirarctia echo*.

Phalæna echo, Abbot & Smith, Lep. Georgia, ii. pl. 68 (1797); Kirby, Cat. Het. p. 242.

Spilosoma niobe, Streck. Proc. Acad. Nat. Sci. Philad. 1884, p. 284; Kirby, Cat. Het. p. 227.

♂. White; palpi and legs orange, banded with black; antennæ with the branches black; abdomen with dorsal series of blackish spots, a subdorsal series of orange patches, a lateral series of small black spots and sublateral spots on three medial segments. Fore wing with the veins defined on each side by broad brown fasciæ;



Fig. 171.—*Seirarctia echo*, ♂. †.

a subcostal fascia extending to beyond middle. Hind wing with some brown at extremity of median nervure; veins 3, 4, 5, 6, 7 defined on each side at extremity by short brown streaks.

♀. Abdomen mostly orange above, the series of black spots much larger; hind wing without brown at end of cell and with hardly a trace of it at extremity of the veins.

Hab. U.S.A., Georgia, Florida. *Exp.* 70 millim.

Egg. Pack. Psyche, v. p. 351; id. Ann. N. Y. Ac. Sci. viii. p. 80.

Hemispherical, thin, glassy, rather coarsely pitted with irregularly polygonal rims.

Larva. Stages 1, 2. Head dark brown; prothoracic somite with sublunate dorsal plate, with a curved series of six piliferous warts in front and a series of smaller ones behind them; the spinulate hair from larger warts very long; behind the plate are single subdorsal warts with two pairs of warts below them; meso- and metathoracic somites similar, also with two confluent lateral warts with a single wart below them; somites 4-11 with two dorsal series of small warts, and a single lateral wart with two coalesced warts below it, then three sublateral series of three warts on each somite, the upper series on the spiracular line, the middle series crescentic, the lowest series minute at base of legs; 12th somite with two large subdorsal groups of three coalesced warts, the suranal plate roughened with warts; body pale brown, the warts darker; hair long and sparse.

Stage 3. Hair thicker; prothoracic shield partially bisected; the primary piliferous warts replaced by small secondary warts each bearing a hair, so that they are arranged in thin pencils.

Stage 4. Head with pale median stripe; clypeus pale, connected with the broad pale lateral stripe; prothoracic shield bisected; piliferous warts smaller, the dorsal warts of 2nd and 3rd somites arranged in curved transverse series; somites 4-11 with the four dorsal warts arranged more trapezoidally; somite 12 with the two dorsal warts half as large as before; body more chestnut-red.

Stage 5. Head ochreous; tubercles ochreous, large, high, with long bristles which are black-brown, ochreous at base, with a number of grey bristles on anterior and posterior somites; the abdominal somites with the two small median dorsal tubercles crowded in front of the two much larger lateral ones; somites transversely banded with irregular creamy-white slashes, three in a row; prothoracic somite ochreous, the others black-brown, with the tubercles reddish ochreous.

Adult. Head cherry-red; the anterior part of clypeus and antennæ whitish; tubercles reddish ochreous; hairs reddish ochreous at base, blackish towards tips; body dark brown; prothorax like head; somite 2 with cream-white medial spot and transverse lateral slash with a faint broken transverse line behind it; somite 3 with two transverse cream-white lines with medial and two lateral spots; the abdominal somites with two similar transverse lines without the intermediate spots, the anterior line with a dilation at middle; the terminal somites with the hinder line often absent or reduced to spots. Food-plant, *Sabal palmetto*.

1990. *Seirartia clara*.

Teracotona clara, Holl. P. U.S. Mus. xviii. p. 249, pl. vii. f. 12 (1895).

♂. Head and thorax red-brown to deep brown; antennæ pale brown; femora crimson above; abdomen orange, some crimson hair at base; subdorsal series of black bands and lateral spots. Fore wing flesh-red, more or less thickly irrorated with black, and the ground-colour sometimes entirely suffused with brown; more or

less obscure antemedial, medial, postmedial, and subterminal diffused black lines, the postmedial excurved beyond the black discoidal spot and the subterminal angled outwards at vein 6. Hind wing white, the inner area and costa slightly tinged with pink; a black discoidal spot; cilia yellowish.

♀. Hind wing pale crimson.

Hab. BR. E. AFRICA, Kikuyu, Nairobi (*Crawshay*), 2 ♂, 2 ♀; GERMAN E. AFRICA, Kilima'njaro, Moschi, 1 ♂. *Exp.* 44 millim.

Genus **DIONYCHOPUS.**

Dionychopus, Herr.-Schäff. Aussereur. Schmett. p. 14 (1850) Type. *amasis*.

Proboscis rather small; palpi short, porrect; antennæ of male minutely serrate and ciliated; fore tibiæ with a curved claw on inner side; hind tibiæ with the medial spurs absent. Fore wing rather narrow; veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with veins 3, 4, 5 from angle of cell; 6, 7 from upper angle; 8 from middle of cell.

1991. *Dionychopus amasis*.

Bombyx amasis, Cram. Pap. Exot. iii. pl. 206, B (1780); Kirby, Cat. Het. p. 223.

Noctua serici, Thunb. Vet.-Akad. N. Handl. ii. p. 242, pl. 5. ff. 1, 2 (1781).

Chelonia erythronota, Boisd. Delegorgue Voy. Afr. Austr. ii. p. 598 (1847); Kirby, Cat. Het. p. 223.

Aloa delineata, Wlk. iii. 700 (1855).

Bombyx thunbergii, Guér. Rev. et Mag. Zool. (2) xiv. p. 351 (1862).

Munychia callipyga, Wlgrn. Wien. ent. Mon. iv. p. 162 (1860); Kirby, Cat. Het. p. 223.

Dionychopus similis, Möschl. Verh. zool.-bot. Ges. Wien, xxxiii. p. 288 (1884).

Head and thorax white; palpi crimson at sides, the third joint black; antennæ black except towards base; patagia with black points and edged with brownish yellow; fore coxæ on outer side



Fig. 172.—*Dionychopus amasis*, ♂. $\frac{1}{2}$.

and femora above crimson; tibiæ and tarsi black, yellow, and white; abdomen crimson with dorsal and lateral series of black points, the ventral surface white. Fore wing silvery white; the costal edge fulvous yellow; indistinct antemedial, medial, and postmedial series of yellow points, with more or less complete series of black points on them, sometimes forming almost complete lines, the 1st running

out to a strong angle just below cell, the 2nd angled outwards to or to close to lower angle of cell, the 3rd strongly excurved from below costa to vein 3, then incurved, sometimes quite obsolete; three to five black points on each side of discocellulars; cilia orange. Hind wing orange-yellow; a large black discoidal spot and sometimes some discoidal spots or points. Underside of fore wing suffused with orange or rarely crimson to the postmedial line; a large black discoidal lunule; hind wing with the costal area whitish, usually with ante- and postmedial black spots.

Hab. TRANSVAAL, Potchefstroom, 1 ♂, 1 ♀ (*Ross*); NATAL (*Gueinzus*), 3 ♂, 1 ♀, Malvern (*Marshall*), 1 ♀, Karkloof (*Marshall*), 3 ♂; C. COLONY, Transkei (*Miss F. Barrett*), 1 ♂, 1 ♀, Uitenhage (*S. D. Banistow*), 1 ♂, (*Drège*) 1 ♀, type *delineata*, (*Dr. Smith*) 1 ♀. *Exp.*, ♂ 56, ♀ 70 millim.

Genus TURUPTIANA.

	Type.
<i>Turuptiana</i> , Wlk. Char. Lep. Het. p. 19 (1869)	<i>obliqua</i> .
<i>Sallæa</i> , Feld. Reis. Nov. p. 8 (1874)	<i>obliqua</i> .

Proboscis small; palpi porrect, clothed with long hair and reaching as far as the frontal tuft; tibiae with the spurs short, mid tibiae with the medial spurs absent. Fore wing with vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from close to angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. Antennæ of male bipectinate with moderate branches.

- A. Fore wing with oblique brown fascia from or from below middle of costa to tornus.
 - a. Fore wing without brown costal fascia *lacipea*.
 - b. Fore wing with brown costal fascia *obliqua*.
- B. Fore wing without oblique brown fascia *neurophylla*.

1992. *Turuptiana lacipea*.

Sallæa lacipea, Druce, A. M. N. H. (6) v. p. 215 (1890); id. Biol. Centr.-Am., Het. ii. p. 391, pl. 77. ff. 6, 7; Kirby, Cat. Het. p. 909.

♂. Head white; palpi, antennæ, tegulæ, and thorax dark brown; patagia white, edged with brown above; pectus orange; tibiae and tarsi grey-brown; abdomen orange, with large dorsal black-brown patch; wings white. Fore wing with the costal edge often brown towards base; an oblique brown fascia from below subcostal nervure just beyond middle of cell to tornus, where it joins a fascia on inner margin near base; cilia usually brown above middle. Hind wing with more or less developed brown patch on terminal half of inner area extending up to vein 3.

♀. Abdomen with dorsal brown bands on terminal segments; fore wing wholly white; hind wing with slight traces of brown at tornus.

Hab. GUATEMALA (*Rodriguez*), 4 ♂, 1 ♀ type, Godman-Salvin Coll. *Exp.*, ♂ 48, ♀ 56 millim.

1993. *Turuptiana obliqua*.

Turuptiana obliqua, Wlk. Char. Lep. Het. p. 19 (1869); Kirby, Cat. Het. pp. 235, 590.

Sallæa ochrosterna, Feld. Reis. Nov. pl. 101. f. 10 (1874); Kirby, Cat. Het. p. 235.

Robinsonia perfecta, H. Edw. Papilio, iv. p. 60 (1884); Kirby, Cat. Het. p. 235.

Head white; palpi and antennæ dark brown; tegulæ and thorax dark brown; patagia white, edged with brown above; pectus orange; tibiæ and tarsi grey-brown; abdomen orange, with black-brown



Fig. 173.—*Turuptiana obliqua*, ♂. 1.

segmental lines above and triangular dorsal patch on basal segments; wings white. Fore wing with brown costal fascia narrowing to a point just before apex; an oblique band from or from just below middle of costal fascia, where it joins a fascia on inner margin from close to base; cilia usually brown or brown at middle. Hind wing with the inner area more or less completely dark brown.

Hab. MEXICO, 1 ♂ type, Jalapa (*Trujillo, Hoege*), 3 ♂, 4 ♀ type, Coatepec (*Brooks*), 1 ♂, Godman-Salvin Coll. *Exp.*, ♂ 48, ♀ 58 millim.

1994. *Turuptiana neurophylla*.

Ambryllis neurophylla, Wlk. vii. 1710 (1856); Kirby, Cat. Het. p. 217.

Ecpantheria hebona, Dognin, Le Naturaliste, 1891, p. 125; id. Léop. Loja, p. 87, pl. 9. ff. 1, 2.

♂. Head and thorax grey-white; palpi, frons, and antennæ black; tegulæ edged with orange, on inner side with black; patagia edged with orange on outer side, with black on inner; thorax with dorsal black stripe, and some orange hair on metathorax; pectus black and orange; legs black with some grey hair; abdomen black, with lateral stripes and the anal tuft orange, the ventral surface obscurely banded with grey. Fore wing with the ground-colour white; an elliptical orange-brown patch below cell and streaks on inner margin, in cell, and above vein 2; triangular spots beyond the cell between veins 3 and 6 and a terminal series in the interspaces; an orange streak on subcostal nervure; black streaks on base of costa and cell; antemedial and medial triangular conjoined patches on costa with lines arising from them, the 1st thicker

and acutely angled in submedian fold, then incurved, the 2nd angled on median nervure, then sinuous; postmedial black patches on costa and at lower angle of cell, with the veins on them white, the costal patch forking below, the patch at lower angle of cell wedge-shaped and with a broken sinuous line from below it to inner margin; a sinuous subterminal series of streaks on each side of the veins, minute at vein 5 and with quadrate patch on costa. Hind wing yellowish white; the inner area tinged with orange; the costal area with three black points at middle and two beyond middle with single point beyond it; short streaks on each side of vein 1 at termen.

♀. Hind wing orange, with some black spots on and beyond discocellulars and an incurved line from below end of cell to above tornus; a subterminal series of conjoined black streaks on each side of the veins, ending in a larger patch at tornus.

Hab. VENEZUELA; ECUADOR, Loja, 1 ♂. *Exp.*, ♂ 52, ♀ 62 millim.

SECT. II. Antennæ of male strongly serrate.

1995. *Turuptiana permaculata*.

Leucarcetia permaculata, Pack. Rep. Peab. Ac. iv. p. 86 (1872); Kirby, Cat. Het. p. 227.

Epantheria reducta, Grote, Bull. U.S. Geol. Surv. iii. p. 799 (1877); Kirby, Cat. Het. p. 217.

Epantheria cæca, Streck. Proc. Acad. N. S. Phil. 1884, p. 283 (1885); Kirby, Cat. Het. p. 216.

White; palpi at tips, sides of frons, and antennæ black; black spots on tegulæ, two on patagia, and a dorsal stripe on thorax; legs striped with black; abdomen dorsally tinged with orange and



Fig. 174.—*Turuptiana permaculata*, ♂. 1.

banded with black, lateral, sublateral, and ventral series of black spots. Fore wing with black spot at base of costa; two obliquely placed subbasal spots below the cell; an antemedial series of five spots and medial series of seven spots strongly angled below the cell; two spots in end of cell and one just beyond it; a postmedial

series of nine spots strongly excurved at median nervules; a subterminal series of spots slightly excurved at median nervules, the spot above vein 6 elongate; a terminal series of spots. Hind wing with discoidal blackish spot; some terminal and subterminal spots towards apex and often others towards tornus.

Hab. U.S.A., Rocky Mountains, Colorado, 1 ♂, California. *Exp.* 44 millim.

SECT. III. Antennæ of male minutely serrate.

- | | |
|--|--------------------|
| A. Fore wing black and white..... | <i>tenebra.</i> |
| B. Fore wing not black and white. | |
| <i>a.</i> Abdomen with dorsal fuscous patch. | |
| <i>a</i> ¹ . Fore wing with the subterminal spots on the veins elliptical | <i>nemophila.</i> |
| <i>b</i> ¹ . Fore wing with the subterminal markings not elliptical. | <i>obscura.</i> |
| <i>b.</i> Abdomen with blue-black dorsal patch | <i>dissimilis.</i> |

*1996. *Turuptiana tenebra.*

Arachnis tenebra, Schaus, P. Z. S. 1894, p. 231; Druce, Biol. Centr.-Am., Het. ii. p. 378, pl. 75. f. 6.

♂. Palpi, frons, and antennæ black; vertex of head white; tegulæ black, with two white spots in front and edged with white; patagia black, edged with white; thorax white with dorsal black patches; pectus black with lateral white patches; legs black, with



Fig. 175.—*Turuptiana tenebra*, ♂. †.

white patches on femora; abdomen black with lateral orange stripes. Fore wing black with irregular white markings; an irregular basal patch with two black spots on it, sometimes joined by an irregular streak to a somewhat Y-shaped postmedial patch extending from vein 3 to inner margin; conjoined antemedial spots on costa and in cell; a spot on middle of inner margin; spots in and above end of cell and two beyond discocellulars, sometimes forming a patch with three black spots on it and joined to an irregular band from costa; some very irregular spots on termen. Hind wing fuscous black, sometimes with irregular white patch below end of cell.

Hab. MEXICO, Orizaba, type † ♂ in Coll. Schaus. *Exp.* 42 millim.

***1997. *Turuptiana nemophila*.**

Epantheria nemophila, Herr.-Schäff. Ausserer. Schmett. f. 60 (1854); Kirby, Cat. Het. p. 217.

♂. Head and thorax olive-yellowish; palpi, frons, and antennæ blackish brown; tegulæ edged with orange; patagia edged with black above; thorax with dorsal black stripe; pectus and legs black and orange; abdomen orange, with dorsal black patch from near base to near extremity, a lateral series of blackish spots, the ventral surface greyish. Fore wing olive-yellow-brown; the veins pale; a black patch at base of costa traversed by pale streaks; an antemedial black line obtusely angled below the cell, then oblique; a medial black patch on costa traversed by pale streaks and giving rise to a line angled on median nervure, then incurved; a post-medial black patch from costa to lower angle of cell traversed by pale streaks on the veins, and with a spot of the ground-colour beyond the cell; a subterminal series of pale-edged elongate black spots bisected by the pale veins. Hind wing yellow, with a blackish streak in cell joining the postmedial sinuous band terminating at vein 1; a subterminal series of spots on the veins.

Hab. VENEZUELA, Aroa. *Exp.* 44 millim.

1998. *Turuptiana obscura*. (Plate XLIX. fig. 1.)

Turuptiana obscura, Schaus, A. M. N. H. (7) vii. p. 268 (1901).

♂. Head and thorax yellowish brown; palpi and frons black-brown; thorax with dorsal black-brown stripe; abdomen orange, with dorsal black patch extending from near base to near extremity; a sublateral series of black spots. Fore wing dark olive-brown, the veins pale; subbasal black patches on costa and below cell; an antemedial line expanding towards costa, obtusely angled below the cell, then oblique; a medial line expanding into a triangular patch on costa, angled on median nervure, then incurved; some slight black marks at lower angle of cell; the postmedial line angled at vein 4, then very oblique and strongly angled inwards on vein 1; a subterminal triangular black patch from costa to vein 5, a rather curved spot from below vein 5 to below 3, and spots on veins 2 and 1. Hind wing dull orange-yellow; an antemedial fuscous spot from costa to median nervure; an obscure double postmedial line expanding into a patch beyond the cell; a subterminal, more or less interrupted, sinuous line.

Hab. PERU, 1 ♂. *Exp.* 36 millim. Type † in Coll. Schaus.

1999. *Turuptiana dissimilis*. (Plate XLIX. fig. 2.)

Chetoloma dissimilis, Schaus, J. N. Y. Ent. Soc. iv. p. 141 (1896).

♂. Head and thorax greyish brown with a slight purplish tinge; palpi, frons, and antennæ black; pectus orange; legs orange and blue-black; abdomen orange, with dorsal blue-black patch on 4th, 5th, and 6th segments. Fore wing hyaline, with antemedial, medial,

and postmedial black spots; the inner area greyish suffused with purple, with a short black streak on middle of inner margin and a curved postmedial line from submedian fold to inner margin. Hind wing hyaline; the costal area yellowish, the inner area orange with black terminal point on vein 1.

♀. Fore wing olive-ochreous suffused with purplish except the subcostal area and a curved postmedial band with rather irregular edges; the ante- and postmedial spots often reduced; the postmedial curved line expanding more or less towards lower angle of cell and sometimes double. Hind wing orange, with oblique irregular black band from vein 3 to tornus.

Hab. COLOMBIA, 1 ♀. *Exp.*, ♂ 46, ♀ 60 millim. Type † in Coll. Schaus.

Genus TESSELLOTA, nov.

Type, *T. cancellata*.

Proboscis aborted; palpi porrect, minute; antennæ of female with extremely short branches; tibiæ with the spurs moderate; abdomen smoothly scaled. Fore wing long and narrow; vein 3 from well before angle of cell; 4, 5 from angle; 6 from just below upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

- A. Fore wing with postmedial series of yellowish spots *trifasciata*.
- B. Fore wing with irregular postmedial brown band.
 - a. Fore wing with double lines on basal area *sertata*.
 - b. Fore wing with brown patches on basal area *cancellata*.

2000. *Tessellota trifasciata*. (Plate XLVIII. fig. 3.)

Halesidota trifasciata, Burm. Descr. Rep. Arg. v. p. 446 (1878); Kirby, Cat. Het. p. 211.

♀. Head and thorax brownish grey; pectus and legs whitish; abdomen orange above, white at extremity and on ventral surface, with dorsal and lateral series of black spots. Fore wing grey-brown; the base of inner margin whitish; a truncate triangular yellowish patch on middle of costa, with a spot below it below cell and an orange-yellow spot nearer the base above vein 1; a postmedial series of yellowish spots, dilated towards costa, oblique below vein 3; a terminal series of patches in the interspaces narrowing to a point at tornus.

Hub. ARGENTINA, Goya (*Perrins*), 1 ♀. *Exp.* 30 millim.

2001. *Tessellota sertata*. (Plate XLIX. fig. 19.)

Halysidota sertata, Berg, An. Soc. Arg. xiii. p. 214 (1882); Kirby, Cat. Het. p. 211.

Euerythra apiola, Druce, A. M. N. H. (7) iii. p. 235 (1899).

Head and thorax white mixed with brown scales; abdomen orange, with dorsal and lateral series of black spots, the ventral surface white. Fore wing white; the basal area with reticulate brown markings; oblique double lines connected in places from

middle of costa to a large somewhat irregularly triangular dark brown patch which extends from costa above middle to termen above tornus and to inner margin before middle; the veins of terminal area brown; irregular subterminal brown-edged spots below costa and at middle; an irregularly waved line just inside termen from costa to vein 2. Hind wing white, with discoidal point and brown patch on termen towards tornus.

Hab. BRAZIL, type † *apiola* in Coll. Druce, Espiritu Santo, Sta. Catherina, 1 ♀, Rio Grande do Sul, 1 ♂; URUGUAY (*Hayne*); ARGENTINA, type † ♂ in Mus. Buenos Ayres. *Exp.* 34 millim.

2002. *Tessellota cancellata*.

Halesidota cancellata, Burm. Descr. Rep. Arg. v. p. 445 (1878); Kirby, Cat. Het. p. 211.

White; head with some orange at back; shoulders with a fuscous spot; legs streaked with fuscous; abdomen orange above, with dorsal and lateral series of black spots. Fore wing with orange spot at base; a short fuscous-brown fascia on base of costa and a triangular spot at middle; a short streak below base of median nervure and small triangular spot below middle; a fascia on basal half of inner margin, emitting a tooth to or towards the spot below middle of cell; a very irregular oblique postmedial band expanding and enclosing one or two white points below costa, angled inwards below end of cell and emitting a hook from its outer side connected with a spot on inner margin before tornus; a terminal maculate band expanding into a large patch between veins 5 and 2. Hind wing with more or less developed discoidal brown spot.



Fig. 176.—*Tessellota cancellata*, ♂. †.

below middle; a fascia on basal half of inner margin, emitting a tooth to or towards the spot below middle of cell; a very irregular oblique postmedial band expanding and enclosing one or two white points below costa, angled inwards below end of cell and emitting a hook from its outer side connected with a spot on inner margin before tornus; a terminal maculate band expanding into a large patch between veins 5 and 2. Hind wing with more or less developed discoidal brown spot.

Hab. ARGENTINA, Buenos Ayres (*Berg*), 1 ♂, 1 ♀. *Exp.* 32 millim.

Genus *METACRISIA*, nov.

Type, *M. courregesi*.

Proboscis fully developed; palpi porrect, extending about the length of head, the 2nd joint fringed with long hair below; antennæ bipectinate with moderate branches; thorax and base of abdomen clothed with rough hair; legs fringed with long hair, the spurs moderate. Fore wing rather narrow; vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8, 9 stalked; 10, 11 from cell. Hind wing with vein 3 from before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell, not reaching costa.

*2003. *Metacrisia courregesi*.

Purius courregesi, Dognin, Le Nat. xiii. p. 257 (1891); id. Léop. Loja, pl. viii. f. 14; Kirby, Cat. Het. p. 906.

♂ Head and thorax ochreous and brown; palpi black on outer

side, the 1st joint crimson, the 2nd ochreous at extremity; legs crimson, fringed with ochreous, the tarsal joints ringed with black; abdomen pale crimson above, ochreous below. Fore wing dark



Fig. 177.—*Metacrisia courregesi*, ♂. 1.

brown; with an ochreous patch at base, on which is an obscure brown-edged band and some pink on inner margin; an ochreous spot in end of cell and spot below base of vein 2; an oblique post-medial band with series of paler brown-edged spots on each edge; cilia chequered brown and yellow. Hind wing yellow, the inner area tinged with crimson.

Hab. ECUADOR, Loja. *Exp.* 44 millim. Type † in Coll. Dognin.

Genus CALIDOTA.

Calidota, Dyar, P. U.S. Nat. Mus. 1900, p. 268 Type.
strigosa.

Proboscis fully developed; palpi slender, the 2nd joint oblique, the 3rd long and porrect; antennæ rather long with moderate branches in male, short branches in female; tibiæ with the spurs moderate; abdomen dorsally clothed with rough hair at base. Fore wing rather long and narrow; vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 7, 8 to form a long narrow areole; 11 free. Hind wing with vein 3 from near angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

- A. Abdomen crimson.
 - a. Fore wing with dark streaks in the interspaces..... *strigosa*.
 - b. Fore wing without dark streaks in the interspaces..... *divina*.
- B. Abdomen orange.
 - a. Abdomen with dorsal and lateral series of black spots.
 - a¹. Fore wing with curved maculate white antemedial band *phryganoides*.
 - b¹. Fore wing without antemedial band.
 - a². Fore wing with pale spots beyond the cell *obscurata*.
 - b². Fore wing with black spots beyond the cell.
 - a³. Fore wing with dark irroration and striation... *euchætiiformis*.
 - b³. Fore wing without dark irroration or striation.
 - a⁴. Fore wing with four black points beyond lower angle of cell *rema*.
 - b⁴. Fore wing with one black point beyond the cell *gemma*.
 - c². Fore wing without spots beyond the cell..... *muricolor*.
 - b. Abdomen with black segmental bands.
 - a¹. Back of head with pair of yellow points..... *gigas*.
 - b¹. Vertex of head with yellow patch..... *similis*.
 - c. Abdomen with fine black dorsal line..... *albiceps*.
 - C. Abdomen brown and whitish *morosa*.

2004. *Calidota strigosa*. (Plate L. fig. 10.)*Sychesia strigosa*, Wlk. iii. 736 (1855); Kirby, Cat. Het. p. 202.*Halisidota laqueata*, H. Edw. Ent. Am. ii. p. 166 (1887); Kirby, Cat. Het. p. 202.*Halisidota cubensis*, Grote, Proc. Ent. Soc. Philad. v. p. 243 (1887); Kirby, Cat. Het. p. 202.

Head and thorax black-brown; shaft of antennæ, palpi in front, frons at sides and above, cheeks, shoulders, margins of tegulæ and patagia, and a streak on last pinkish-white; legs streaked with crimson, white, and fuscous; abdomen crimson, with dorsal, lateral and sublateral series of black spots, the ventral surface white, paired ventral series of black points. Fore wing whitish, with diffused brown streaks on the veins and in interspaces, the latter expanding into spots before termen; ill-defined dark spots in middle and end of cell; some pink at base of inner margin, with traces of the white antemedial line beyond it on inner area; the postmedial whitish line ill-defined, angled beyond cell, then oblique to middle of inner margin. Hind wing semihyaline, the terminal area and the veins towards termen suffused with brownish.

Hab. U.S.A., Texas, Florida; HATTI (*Tweedie*), 2 ♂, 2 ♀, type; CUBA; ST. CROIX. *Exp.* ♂ 50, ♀ 54 millim.

Subsp. 1. The black markings more prominent; abdomen with the terminal half blackish below, with white line just beyond middle followed by short sublateral lines.—JAMAICA (*Martin*), 1 ♂.

Larva. Dyar, P. U.S. Nat. Mus. 1900, p. 268.

Stage 1. Head round, slightly bilobed; pale brown, shining, the mouth blackish; body ochreous, orange-brown at incisures; a broad white dorsal stripe on somites 4-9; subdorsal brown stripes, occupying the whole dorsum on somite 10; somites 2, 3 pinkish dorsally; no cervical shield or anal plate; setæ in groups of five subdorsally on somite 1; tubercles colourless, i.-iii. of somite 4 black, iii.-vi. of somites 4-10 dusky; on thorax i. *a* + i. *b* + ii. *a* separate, ii. *b* weak, posterior; vi. 2-haired; iii., v. absent; on abdomen iv. behind spiracle, vi. present, elongate, without hairs; hairs black, spinulose; i. *b* of somites 2, 3, iii. of 11, and the subventral ones white. A very young larva was whitish lead-colour dorsally on somites 5-9, orange at extremities, the tubercles all dusky.

Stage 2. Somite 1 retracted, with lateral warts only; somites 2, 3 large, with long hair overhanging the head; two warts above the stigmatal wart, the upper larger; abdomen with warts i.-vi. moderate, iv. behind stigmata; somites 1-3 and 11, 12 orange; 4-10 dorsally and subventrally whitish; thoracic and anal feet orange-tinged, abdominal feet pale; warts black; hair black dorsally, white subventrally; later all vinous except somite 11, the white stripe reduced to dots.

Stage 3. Head orange testaceous; jaws brown; dorsally dark vinous, ventral surface pale; somite 1 dorsally luteous, 2 dark orange-red, 5-9 white to wart ii., 11 orange, 12 paler with purplish

dorsal stripe on 11, 12; hair black and white mixed, spinulose, longer at extremities.

Stage 4. Head red-brown, blackish about sutures; the dorsum of somites 5-9 grey-white with dusky dorsal line; somites 3 and 11 dull orange except the latter on dorsum; the rest blackish purple, with narrow white subventral line; feet pale; wart ii. on somites 4 and 11 with short black tuft, double on 5; the other hair reddish mixed with black, with some long white ones at extremities; warts pale; older with the colour more faded, the white tinged with dull red, the purple parts lighter, somite 4 remaining dark; the warts surrounded with white rings; feet reddish.

Stage 5. Head scarcely bilobed; shiny black, the mouth and antennæ whitish; body dull grey; the subdorsal area of somites 5-9 and 11 lighter and salmon-tinted; warts pale salmon-colour; hair reddish, the long hair at extremities white; somite 1 retracted with slight warts; two subdorsal warts on somites 2, 3; i. b and iii. rudimentary; hair spinulose; spiracles black-ringed; later the larva is uniform greyish with dusky dorsal line, the hair pinkish brown.

Stage 6. Head with base of antennæ reddish; body fleshy brown with black dorsal stripe; warts and hair pinkish brown with longer hair at extremities.

Cocoon elliptical, rather thin, formed of hair and silk; pupa mahogany-brown.

Food-plant, *Guettarda elliptica*.

*2005. *Calidota divina*.

Carales divina, Schaus, Ent. Am. v. p. 191 (1889); Druce, Biol. Centr.-Am., Het. ii. p. 379, pl. 75. f. 14; Kirby, Cat. Het. p. 207.

Head and thorax grey, irrorated with brown; palpi, lower part of frons, and antennæ dark brown; 1st joint of palpi, sides of frons, basal joint of antennæ, extremity of metathorax, and greater part of pectus and coxæ crimson; tegulæ with black spots; patagia with black patches at base and some black and crimson scales; meso- and metathorax with black points; legs dark, brown-streaked, the tarsi ringed with grey; abdomen crimson, with dorsal and lateral series of black spots, the ventral surface whitish. Fore wing grey, irrorated with brown; a crimson point at base; an oblique subbasal black-brown patch from costa to vein 1; an ante-medial patch extending to median nervure; a medial triangular spot extending into cell with a short crimson streak just beyond it on costa, and an elongate black spot below it in lower end of cell; an irregular mark defined by a brown line on inner area before middle, its upper extremity produced and ending in a rounded spot, then angled outwards on vein 1; a brown-edged dumbbell-shaped discoidal spot; a black-brown postmedial band with irregularly dentate inner edge, diffused outwards and with black streaks on the veins; a crenulate subterminal line with short dark striæ on

the veins; a crenulate terminal line. Hind wing pale semihyaline brown with slight discoidal lunule, the terminal area rather darker.

Hab. MEXICO, Las Vegas, Coffre de Perot, 10,000 feet, type † in Coll. Schaus. *Exp.* 60 millim.

2006. *Calidota phryganoides*.

Carales phryganoides, Wlk. iii. 731 (1855); Druce, Biol. Centr.-Am., Het. ii. p. 379, pl. 75. f. 15; Kirby, Cat. Het. p. 207.

Head and thorax grey and fuscous brown; tegulæ with black spots; abdomen orange, the hair at base pale, a dorsal series of short black bands and a lateral series of spots, the ventral surface greyish. Fore wing whitish, thickly irrorated and striated with black-brown; a curved antemedial white band from costa to submedian fold with waved outer edge and a spot above vein 1; a waved postmedial line excurved from costa to vein 3, then incurved, with obscure short dark streaks beyond it in the interspaces; an obscure waved dark subterminal line. Hind wing semihyaline brown, the terminal area rather more thickly scaled.

Hab. MEXICO, 1 ♀ type, Jalapa, Orizaba. *Exp.*, ♂ 48, ♀ 56 millim.

2007. *Calidota obscurata*.

Carales obscurata, Druce, Biol. Centr.-Am., Het. i. p. 99, pl. 10. f. 7 (1884); Kirby, Cat. Het. p. 207.

Head and thorax pale and dark brown; palpi towards tips and frons blackish, some orange above frons and on basal joint of antennæ, vertex of head with black streak; oblique black lines across tegulæ and patagia; fore coxæ orange on inner side; abdomen orange with dorsal and two lateral series of black spots, the ventral surface grey with black fascia. Fore wing yellowish brown, suffused and thickly irrorated with dark brown; the veins with series of black striæ; two obscure darker marks beyond discocellulars; a terminal series of obscure spots. Hind wing dark brown, with the cell and area just below and beyond it semihyaline.

Hab. MEXICO, Orizaba (*Godman*), 2 ♂, 1 ♀, Jalapa (*Trujillo*), 1 ♂; GUATEMALA (*Rodriguez*), 1 ♀; COSTA RICA (*Rogers*), 1 ♀ type; Godman-Salvin Coll. *Exp.*, ♂ 60, ♀ 68 millim.

2008. *Calidota euchætiformis*.

Opharus euchætiformis, H. Edw. Papilio, iv. p. 15 (1884); Druce, Biol. Centr.-Am., Het. ii. p. 379, pl. 75. f. 13; Kirby, Cat. Het. p. 205.

Palpi, frons, and antennæ black; vertex of head orange with a black spot; thorax pale and dark brown; legs fuscous brown, the coxæ orange; abdomen orange, with dorsal and two lateral series of black spots. Fore wing yellowish brown, strongly irrorated and striated with red-brown; two short black streaks in end of cell, one

below base of vein 2, and three beyond the cell between veins 3 and 6. Hind wing semihyaline brown, the terminal area yellowish, irrorated with dark red-brown.

Hab. MEXICO, Jalapa (*Trujillo, Hoega*), 3 ♀, Tepic (*Richardson*), 1 ♀, Godman-Salvin Coll. *Exp.* 32 millim.

*2009. *Calidota rema*. (Plate XLIX. fig. 18.)

Pseudapistosia rema, Dognin, Bull. Soc. Ent. Fr. lx. p. clxxvi (1891); Kirby, Cat. Het. p. 906.

♂. Head and thorax pale brown; palpi and frons blackish, some orange above frons; a black point on vertex of head; tegulæ with black spots and edged with orange; pectus and legs black; abdomen orange, with somewhat triangular fuscous dorsal patch reduced to spots on two terminal segments; the ventral surface blackish. Fore wing pale brown, with black point in end of cell and an oblique series of four small spots from below base of vein 2 to above 4. Hind wing pale brown, the interspaces semihyaline towards base.

Hab. BRAZIL, Sta. Catherina. *Exp.* 54 millim. Type † in Coll. Dognin.

2010. *Calidota gemma*. (Plate XLIX. fig. 17.)

Opharus gemma, Schaus, P. Z. S. 1894, p. 230.

♂. Head and thorax pale brown; palpi, frons, and antennæ blackish; tegulæ yellow below; thorax with dorsal black stripe and lateral yellow stripes, the pectus and legs blackish, fore coxæ yellow; abdomen yellow, with dorsal blackish fascia not reaching extremity, the ventral surface blackish. Fore wing pale brown, with blackish spot in end of cell and slight spot beyond discocellulars. Hind wing fuscous-brown, with the lower part of cell and the interspaces below and beyond it up to vein 5 whitish.

Hab. VENEZUELA, Palma Sol, 1 ♂, Aroa, type † in Coll. Schaus; BRAZIL, Rio Grande do Sul. *Exp.* 46 millim.

*2011. *Calidota muricolor*. (Plate XLIX. fig. 7.)

Pygarctia muricolor, Dyar, J. N. Y. Ent. Soc. vi. p. 38 (1898).

♂. Head dark grey in front, the vertex ochreous; tegulæ mouse-grey, narrowly edged with ochreous behind; thorax grey, the edges of patagia paler; pectus and coxæ ochreous; legs grey; abdomen orange-buff, with a dorsal series of blackish points and broad lateral bands. Fore wing mouse-grey with a bronzy tinge, semihyaline except towards margins. Hind wing semihyaline greyish, darker towards termen, pale at tornus.

Hab. U.S.A., Arizona, Chiricahua Mts. *Exp.* 41 millim. This species is unknown to me, figured from a drawing from type.

2012. *Calidota gigas*.

Opharus gigas, Dognin, Le Nat. 1890, p. 176; id. Lép. Loja, p. 84, pl. 8. f. 13; Kirby, Cat. Het. p. 205.

Dark reddish brown; back of head, shoulders, and patagia with orange points; abdomen with large subdorsal orange-yellow spots;



Fig. 178.—*Calidota gigas*, ♂. ¼.

wings with the veins and marginal areas rather darker; fore wing with diffused dark discoidal lunule.

Hab. PANAMA, Chiriqui (*Trötsch*), 1 ♂; ECUADOR, Loja; PERU, 1 ♂. *Exp.*, ♂ 72, ♀ 82 millim. Type † in Coll. Dognin.

2013. *Calidota similis*, n. sp. (Plate XLIX. fig. 12.)

♂. Black-brown; vertex of head with orange patch, paler in front; pectus with large orange lateral patches; abdomen dorsally orange with segmental black-brown lines, the first five segments with triangular dorsal patches of brown hair diminishing in size towards extremity. Hind wing paler towards base.

Hab. BOLIVIA, Songo (*Garlepp*), 1 ♂ type. *Exp.* 68 millim.

*2014. *Calidota albiceps*. (Plate XLIX. fig. 8.)

Calidota albiceps, Dognin, Le Nat. (2) 337, p. 69 (1901).

♀. Palpi, frons, and antennæ dark brown, the first with the 1st joint orange; vertex of head, tegulæ, and thorax yellowish white; patagia dark brown with a white stripe above; pectus and legs blackish, with orange stripe below wings; abdomen orange, with fine dorsal black stripe, the ventral surface blackish. Fore wing purplish brown, with slightly darker discoidal mark. Hind wing paler brown, the disk semihyaline.

Hab. VENEZUELA, Merida, type † ♀ in Coll. Dognin. *Exp.* 50 millim.

2015. *Calidota morosa*. (Plate XLIX. fig. 23.)*Opharus morosus*, Schaus, P. Z. S. 1892, p. 282.

♂. Pale grey-brown; palpi, antennæ, tibiæ, and tarsi tinged with fuscous; abdomen whitish, the dorsum to 5th segment and segmental rings grey-brown. Fore wing with traces of oblique subbasal shade; a prominent oblique medial shade from subcostal nervure to just below median nervure with semihyaline patches before and beyond it, the latter bounded by a curved shade between veins 7 and 3. Hind wing semihyaline, the veins and marginal areas pale grey-brown.

Hab. PERU, 1 ♂. *Exp.* 44 millim. Type † in Coll. Schaus.

Genus **PITANE**.

Pitane, Wlk. ii. 462 (1854) Type. *fervens*.

Proboscis fully developed, hairy towards base; palpi with the 2nd joint upturned and reaching vertex of head, the 3rd long and porrect; antennæ of female with short branches; hind tibiæ with the medial spurs rather long; abdomen dorsally clothed with rough hair at base. Fore wing rather long and narrow; vein 3 from long before angle of cell; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the long areole; 11 free. Hind wing with vein 3 from near angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from close to end of cell.

2016. *Pitane fervens*.*Pitane fervens*, Wlk. ii. 462 (1854); Kirby, Cat. Het. p. 219.

♀. Head and thorax orange-scarlet; palpi except 1st joint, frons, and antennæ dark brown; fore femora above, tibiæ and tarsi dark brown. Fore wing red-brown with darker mottling; the margins dark brown; an orange patch with scarlet mottling on basal area

Fig. 179.—*Pitane fervens*, ♀. 1.

from below costa to vein 1; a similar medial band from below costa to vein 1, expanding below the cell; a postmedial curved patch from vein 10 to 4; an indistinct curved dark subterminal line from costa to vein 5. Hind wing orange tinged with scarlet; a terminal dark brown band with sinuous inner edge.

Hab. ignotus, 1 ♀ type. *Exp.* 58 millim.

Amazonas - in stretch Coll. of Calif. Acad. Sci., U.S.A.

Genus **PARANERITA**, nov.Type, *P. polyxena*.

Proboscis fully developed; palpi upturned, not quite reaching vertex of head, the 3rd joint minute; antennæ with long bristles and cilia; tibiæ with the spurs moderate; abdomen dorsally clothed with long hair towards base. Fore wing elongate, the termen very oblique; veins 3, 4, 5 from angle of cell; 6 from upper angle; 7, 8 stalked; 9, 10 stalked from 11, 9 anastomosing with 8 to form the areole. Hind wing with vein 2 from close to angle of cell; 3 and 5 on a long stalk; 4 absent; 6, 7 from upper angle, 7 bent upwards to costa; 8 from middle of cell curved to costa, which is strongly lobed in male.

SECT. I. Fore wing of male with elliptical patch of androconia below the cell on underside covered by the costal lobe of hind wing which extends to near apex.

- A. Hind wing pink *patara*.
B. Hind wing brown *sithnides*.

*2017. *Paranerita patara*. (Plate XLIX. fig. 5.)

Neritos patara, Druce, A. M. N. H. (6) xviii. p. 39 (1896).

♂. Head and thorax grey-brown, upper part of frons yellow; antennæ white at tips; abdomen pale crimson; pectus, legs, and ventral surface of abdomen whitish. Fore wing pale yellow; the inner area from costa before middle to the postmedial line at vein 2 grey-brown with some pink on inner margin; a fine curved postmedial line, the apical area beyond it grey-brown down to vein 5, with a large rounded yellow spot at apex. Hind wing pink, with a brown patch on termen from below apex to vein 1.

♀. Fore wing with the patch on costa more obliquely conical; the medial patch on termen more triangular and the upper patch at apex. Hind wing with large fuscous patch on middle of termen.

Hab. BR. GUIANA, Essequibo R. (*Whitely*), type ♂ in Coll. Druce; BRAZIL, Espirito Santo, ♀ in Mus. Oxon. *Exp.* 30 millim.

2018. *Paranerita sithnides*.

Neritos sithnides, Druce, A. M. N. H. (6) xviii. p. 39 (1896).

♂. Head and thorax brown; vertex of head yellow; abdomen crimson; pectus, legs, and ventral surface of abdomen yellow.



Fig. 180.—*Paranerita sithnides*, ♂. 1.

Fore wing purplish brown; a broad yellow band with wavy edges from middle of costa to termen above tornus, expanding on costa and termen; the costa orange-red just before the band and beyond it; a terminal yellow band with minutely wavy inner edge and expanding at apex. Hind wing brown, the inner area yellow; the cilia yellowish white; underside mostly suffused with yellow.

Hab. AMAZONS, R. Napo (*Whitely*), type ♂ in Coll. Druce; PERU, Chanchamayo, 1 ♂. *Exp.* 30 millim.

SECT. II. Fore wing of male without patch of androconia; hind wing with the costal lobe only extending to middle.

2019. *Paranerita polyxena*.

Evius polyxenus, Druce, P. Z. S. 1883, p. 383, pl. 40. f. 6; Kirby, Cat. Het. p. 197.

♂. Head and thorax dark red-brown; palpi at base and tip and vertex of head yellow; antennæ white at tips; abdomen crimson; pectus, legs, and ventral surface of abdomen yellow, fore legs tinged with crimson. Fore wing dark red-brown; a triangular yellow patch on middle of costa, a spot at apex, and a small triangular patch on middle of termen. Hind wing with the basal half yellow, the terminal half blackish, the yellow on inner margin extending almost to tornus, and the black on costa nearly to base.

Hab. ECUADOR, Sarayacu (*Buckley*), type ♂ in Coll. Druce. *Exp.* 30 millim.

Subsp. 1. ♂. Hind wing with the black extending up below the cell on upperside to the base leaving the inner margin narrowly yellow.

Hab. BOLIVIA, Songo (*Garlepp*), 1 ♂.

Genus *HYPONERITA*, nov.

Type, *H. lavinia*.

Proboscis fully developed; palpi upturned, and not reaching vertex of head; antennæ of male minutely serrate and fasciculate; tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from well before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8 stalked; 9 from 10 anastomosing with 8 to form the areole; 11 free; male with an elliptical patch of androconia below the cell. Hind wing of male with the costal area strongly lobed to near apex; veins 3 and 5 from angle of cell; 4 absent; 6 from upper angle, 7 from before angle; 8 curved from middle of cell.

*2020. *Hyponerita lavinia*.

Idalus lavinia, Druce, P. Z. S. 1890, p. 496, pl. 42. f. 6; Kirby, Cat. Het. p. 198.



Fig. 182.—*Hyponerita lavinia*, ♂. $\frac{1}{2}$.

♂. Head, thorax, and abdomen crimson; tips of palpi, spots on

frons, between antennæ, and on tegulæ and patagia yellow; ventral surface of abdomen whitish. Fore wing yellow, with irregular purplish-crimson markings with deep crimson edges; an oblique basal patch conjoined to an antemedial band where it is angled inwards below cell; its outer edge conjoined below costa to a broad medial band with series of crimson points on it, this band again conjoined below costa to a sinuous patch from costa to vein 4 and to a trifid patch between vein 3 and inner margin; a terminal series of spots. Hind wing crimson.

Hab. BR. GUIANA (*Whiteley*), 1 ♂ type † in Coll. Druce. *Exp.* 28 millim.

Genus MAZÆRAS.

Type.

Mazæras, Wlk. iii. 632 (1855)..... *conferta*.

Proboscis fully developed; palpi upturned, the 2nd joint not reaching vertex of head, the 3rd short; antennæ of male with moderate branches, of female with short branches; tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from long before angle of cell; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form a long areole; 11 free. Hind wing with vein 3 from well before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from beyond middle of cell.

- A. Abdomen with the terminal segments black *melanopyga*.
- B. Abdomen with the terminal segments not black.
 - a. Hind wing crimson *conferta*.
 - b. Hind wing brown *janeira*.

2021. *Mazæras melanopyga*. (Plate XLIX. fig. 16.)

Eucerea melanopyga, Wlk. Char. Lep. Het. p. 4 (1869); Kirby, Cat. Het. p. 201.

♂. Head, tegulæ, and prothorax scarlet; 3rd joint of palpi and antennæ brown; thorax dark red-brown; pectus and legs scarlet, the tibiæ and tarsi dark brown; abdomen black, the dorsal surface scarlet to 3rd segment. Fore wing dark red-brown with numerous pale striæ. Hind wing fuscous brown with a little crimson at base; the area in and below the cell semihyaline.

Hab. BRAZIL, Pernambuco, Rio Janeiro, 1 ♂ type. *Exp.* 50 millim.

2022. *Mazæras conferta*.

Mazæras conferta, Wlk. iii. 633 (1855); Butl. A. M. N. H. (3) xx. p. 218, pl. 4. f. 1; Kirby, Cat. Het. p. 222.

Head and thorax deep crimson-red; 3rd joint of palpi, antennæ, two spots on tegulæ and spots on meso- and metathorax black; tibiæ and tarsi black; abdomen orange, the hair at base of dorsum crimson; dorsal and subdorsal series of large black spots, the ventral surface red-brown. Fore wing purplish red-brown striated

with fine pale lines; a crimson-red spot at base, subbasal spots below costa and cell, and sometimes an obscure spot in end of cell.



Fig. 183.—*Mazæras conferta*, ♂. †.

Hind wing crimson, the area in below and beyond the cell semi-hyaline whitish in male.

Hab. BRAZIL, Espiritu Santo, 2 ♂, 1 ♀ type. *Exp.*, ♂ 64, ♀ 74 millim.

2023. *Mazæras janeira*.

Sychesia janeira, Schaus, P. Z. S. 1892, p. 280; id. Am. Lep. pl. iii. f. 14.

♂. Head and thorax yellow-brown; tegulæ edged with orange; legs fuscous, the coxæ orange; abdomen orange, with dorsal black bands on 2nd, 3rd, and 4th segments, followed by three spots, a lateral series of black spots, the ventral surface brown. Fore wing yellow-brown with numerous fine pale striæ. Hind wing yellowish, the inner and terminal areas tinged with brown.

♀. Hind wing fuscous, with yellowish patch at base.

Hab. BRAZIL, Rio Janeiro, 1 ♂, Rio Grande do Sul, 1 ♀. *Exp.* 60 millim. Type † in Coll. Schaus.

Genus **PURIUS**.

	Type.
<i>Purius</i> , Wlk. iii. 719 (1855)	<i>pilumnia</i> .

Proboscis fully developed; palpi upturned reaching vertex of head, roughly scaled, the 3rd joint minute; frons with tuft of hair; antennæ of male bipectinate with moderate branches; tibiæ with the spurs short; abdomen dorsally somewhat roughly scaled towards base. Fore wing with vein 3 from near angle of cell; 5 from just above angle; 6 from well below upper angle; 9 from 10 anastomosing with 8 to form the long areole; 11 free. Hind wing with veins 3 and 5 from close to angle of cell; 6 from well below upper angle; 8 anastomosing rather strongly with the cell at middle.

2024. *Purius pilumnia*.

Bombyx pilumnia, Stoll, Pap. Exot. iv. pl. 307, D (1780); Kirby, Cat. Het. p. 225.

Purius sordidus, Wlk. iii. 719 (1855); Druce, Biol. Centr.-Am., Het. i. p. 100; Kirby, Cat. Het. p. 205.

♂. Head and thorax pale brown irrorated with fuscous; palpi

blackish at sides; fore coxæ crimson at sides, the knees and tarsal joints banded with black; abdomen with black and crimson dorsal bands, the ventral surface pale brown. Fore wing pale brown strongly irrorated with black, series of black points on the costa and veins; diffused blackish spots at angles of cell. Hind



Fig. 184.—*Purius pilumnia*, ♂. 1.

wing semihyaline brownish white.

♀. Much darker brown; fore wing more evenly and finely striated; hind wing brown.

Hab. COSTA RICA; PANAMA, Chiriqui; VENEZUELA, 2 ♂ type *sordidus*; SURINAM; CAYENNE; AMAZONS, Manãos. *Exp.* 38 millim.

Genus MALLOCEPHALA.

Type.

Mallocephala, Blanchard, Gay's Hist. Chile, Zool. vii. p. 68 (1852).. *rubripes*.

Proboscis aborted; palpi porrect, the 2nd joint reaching as far as frontal tuft and clothed with long hair, the 3rd long and smoothly scaled; antennæ of male bipectinate with long branches, of female biserrate; head, thorax, and abdomen clothed with long hair; hind tibiæ with the medial spurs absent. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with vein 3 from before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell. Female with the wings much aborted.

- | | |
|---|-----------------------|
| A. Femora and abdomen above pinkish | <i>rubripes</i> . |
| B. Femora and abdomen above yellowish | <i>latior</i> . |
| C. Femora above grey..... | <i>deserticolor</i> . |

*2025. *Mallocephala rubripes*.

Mallocephala rubripes, Blanchard, Gay's Hist. Chile, Zool. vii. p. 68, pl. 4. f. 7 (1852).

♂. Reddish brown; palpi and femora above pink; abdomen pinkish above with dark dorsal line. Fore wing uniform reddish brown. Hind wing paler.

Hab. CHILE, Coquimbo. *Exp.* 34 millim. This species is unknown to me.

2026. *Mallocephala latior*. (Plate XLIX. fig. 10.)

Laora latior, Butl. Trans. Ent. Soc. 1882, p. 5; Kirby, Cat. Het. p. 275.

Laora tegulata, Butl. Trans. Ent. Soc. 1882, p. 6; Kirby, Cat. Het. p. 275.

Laora angustior, Butl. Trans. Ent. Soc. 1882, p. 6; Kirby, Cat. Het. p. 275.

Laora obscura, Butl. Trans. Ent. Soc. 1882, p. 7; Kirby, Cat. Het. p. 275.

♂. Dark reddish-brown more or less strongly tinged with fuscous; femora fulvous above; abdomen with diffused fulvous

yellow bands above or entirely clothed with fulvous hair above except the extremity, which is sometimes whitish. Hind wing with the basal half whitish; cilia of both wings greyish at tips.

♀. Ochreous whitish, more or less strongly tinged with brown, the anal tuft white; the wings much aborted.

Hab. CHILI. Valparaiso (*Edmonds, J. J. Walker*), 5 ♂, 4 ♀, type and types *tegulata*, *angustior*, *obscura*. *Exp.*, ♂ 30-34, ♀ 22 millim.

Larva. Black, with metallic blue tubercles clothed with short hair which is greyish on 2nd, 3rd, and 4th somites, on the others reddish-brown on dorsum, grey at sides. Food-plants, various low herbs.

Cocoon slight, of white silk mixed with hair, emerges in January and February.

2027. *Mallocephala deserticola*.

Bombyx deserticola, Berg, Acta Acad. Nac. Cordova, i. pp. 78, 157 (1875); Kirby, Cat. Het. p. 275.

♂. Head and thorax grey-brown; abdomen whitish, tinged with yellow and grey above. Fore wing grey-brown; the costal edge



Fig. 185.—*Mallocephala deserticola*, ♂. 1.

and cilia at tips whitish. Hind wing white, some specimens with more or less grey suffusion on apical area.

♀. Brownish, ochreous, or whitish, the anal tuft white.

Hab. ARGENTINA (*Leech*), 1 ♂, Colon (*Oldfield Thomas*), 4 ♂; PATAGONIA. *Exp.* 38 millim.

Genus ANTARCTIA.

	Type.
<i>Antarctia</i> , Hübn. Verz. p. 191 (1827)	<i>brunnea</i> .
<i>Motada</i> , Wlk. iv. 924 (1855)	<i>lateralis</i> .
<i>Massicyta</i> , Wlk. vii. 1712 (1856)	<i>fusca</i> .

Proboscis absent; palpi porrect, clothed with rough hair; head and thorax clothed with rough hair, the head retracted; antennæ of male bipectinate, with long branches, of female with short branches; tibiæ clothed with rough hair, the spurs short; abdomen clothed with rough hair, male with lateral tufts towards extremity, female with large anal tuft. Fore wing broad; vein 3 from near angle of cell; 5 from just above angle; 6 from just below upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with vein 3 from towards angle of cell; 5 from or from above angle; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. Palpi with the 3rd joint naked and extending beyond the frons.

- A. Vertex of head and tegulæ yellowish white *variegata*.
 B. Vertex of head and tegulæ not white.
 a. Fore wing with obscure subterminal line.
 *a*¹. Fore wing with at most a black point in middle of cell; ♂ with the disk whitish on underside; hind wing yellowish, with diffused maculate band on terminal area *fusca*.
 *b*¹. Fore wing with distinct black spot in middle of cell; ♂ with the disk dark on underside; hind wing brown, paler towards base *lateralis*.
 b. Fore wing without subterminal line.
 *a*¹. Fore wing with pale streaks on the median nervules. *costata*.
 *b*¹. Fore wing with dark streaks on the veins.
 *a*². Fore wing with the ground-colour black-brown ... *honora*.
 *b*². Fore wing with the ground-colour dull rufous ... *fervida*.
 *c*¹. Fore wing with the veins concolorous.
 *a*². Fore wing with diffused fuscous streaks on median nervure and vein 1 *angustipennis*.
 *b*². Fore wing without dark streaks on median nervure and vein 1.
 *a*³. Fore wing with dark discoidal lunule.
 *a*⁴. Hind wing dark brown *persimilis*.
 *b*⁴. Hind wing whitish *paula*.
 *b*³. Fore wing without dark discoidal lunule.
 *a*⁴. Fore wing with the costa not white.
 *a*⁵. Abdomen dorsally brown *rudis*.
 *b*⁵. Abdomen dorsally orange *sericea*.
 *b*⁴. Fore wing with the costa white *vulpina*.

2028. *Antarctia variegata*. (Plate XLIX. fig. 13.)

Motada variegata, Schaus, J. N. Y. Ent. Soc. iv. p. 143 (1896).

♂. Palpi and frons black-brown; vertex of head and tegulæ white; antennæ blackish, the shaft white above; thorax blackish, largely mixed with white; femora orange above; abdomen dorsally black and white, laterally dull orange, ventrally whitish. Fore wing black-brown, thickly irrorated with white; the base of inner area pale; white spots in middle and end of cell; a white point followed by a short streak in middle of submedian fold; vein 1 streaked with white; a more or less developed spot on middle of inner margin; an obscure black discoidal spot; a white postmedial line excurved from costa to vein 5, then interrupted and incurved from vein 2 to inner margin; a very irregular dentate subterminal line bent outwards between veins 6 and 4, then incurved to vein 3 and bent outwards to tornus; the veins of terminal area streaked with white; a crenulate white terminal line. Hind wing white; a fuscous discoidal lunule; some fuscous subterminal spots toward apex and tornus, and a slight terminal line from apex to vein 2.

Hab. BRAZIL, Castro Paraña, 1 ♂. *Exp.* 34-44 millim. Type † ♂ in Coll. Schaus.

2029. *Antarctia fusca*. (Plate XLIX. fig. 15.)

Massicyta fusca, Wlk. vii. 1712 (1856); Kirby, Cat. Het. p. 835.

Antarctia multifarior, Burm. Descr. Rep. Arg. v. p. 452 (1878); Kirby, Cat. Het. p. 225.

♂. Head and thorax brown, irrorated with grey; fore femora orange above; abdomen orange, with dorsal brown strigæ and the ventral surface brown. Fore wing grey-brown, thickly irrorated with fuscous; the veins paler and slightly defined by black, especially the median nervures and nervules; a dark discoidal lunule; traces of a subterminal maculate fuscous line. Hind wing pale yellowish, slightly irrorated with brown; the veins brownish; the inner area clothed with orange hair; a dark discoidal lunule; the costal and terminal areas strongly irrorated with brown; a subterminal series of dark spots and a dark terminal line.

♀. Rather paler; abdomen with diffused dark dorsal bands; hind wing uniform grey-brown, thickly irrorated with dark brown, and with hardly a trace of the dark discoidal lunule and subterminal spots.

Hab. BRAZIL, 2 ♀ type; ARGENTINA. *Exp.*, ♂ 44, ♀ 60 millim.

2030. *Antarctia lateralis*.

Motada lateralis, Wlk. iv. 924 (1855); Kirby, Cat. Het. p. 225.

Fuscous brown mixed with grey; antennæ whitish; femora yellow above; abdomen yellow above, with diffused dark dorsal



Fig. 186.—*Antarctia lateralis*, ♂. †.

bands. Fore wing with the veins whitish; an obscure dark spot in middle of cell, and a discoidal lunule. Hind wing with the basal half paler.

Hab. BRAZIL, Rio Janeiro, 3 ♂, 1 ♀ type. *Exp.*, ♂ 42, ♀ 50 millim.

2031. *Antarctia costata*. (Plate XLIX. fig. 11.)

Antarctia costata, Burm. Descr. Rep. Arg. v. p. 451 (1878); Kirby, Cat. Het. p. 225.

Motada bergi, Schaus, J. N. Y. Ent. Soc. iv. p. 142 (1896).

♂. Dark brown; antennæ with the shaft whitish above; fore femora dull orange above; abdomen dull orange at sides. Fore wing thickly irrorated with greyish, the veins distinctly whitish. Hind wing slightly irrorated with greyish.

♀. Abdomen dull orange dorsally, with diffused fuscous bands.

Hab. BRAZIL, Rio Janeiro, 1 ♀, Castro Paraña, 1 ♂, 1 ♀, Petropolis, type † *bergi* in Coll. Schaus. *Exp.*, ♂ 46, ♀ 48 millim.

2032. *Antarctia honora*. (Plate XLIX. fig. 22.)

Motada honora, Schaus, J. N. Y. Ent. Soc. iv. p. 142 (1896).

♂. Head, thorax, and abdomen black-brown; femora dull

orange above, fringed with fulvous hair; abdomen with some dull orange hair especially towards base. Fore wing dark brown, rather thinly scaled and slightly irrorated with greyish scales. Hind wing pale, the veins dark, the terminal half suffused with fuscous brown; a streak in submedian fold, and the cilia towards tornus of an orange tinge.

♀. Abdomen dull orange dorsally, with fuscous bands; the branches of antennæ fulvous; legs fringed with dark hair; fore wing more thickly scaled; hind wing brown, orange towards base.

Hab. COLOMBIA; BRAZIL, Castro Paraña, 1 ♀. *Exp.*, ♂ 34, ♀ 44 millim. Type † ♀ in Coll. Schaus.

*2033. *Antarctia fervida*. (Plate XLIX. fig. 20.)

Antarctia fervida, Schaus, A. M. N. H. (7) vii. p. 269 (1901).

♀. Fulvous brown slightly mixed with fuscous; abdomen with the medial segments dorsally fuscous; wings irrorated with fuscous, the veins streaked with fuscous; hind wing rather paler.

Hab. BRAZIL, Rio Grande do Sul, 1 ♀, Castro Paraña, type † ♀ in Coll. Schaus. *Exp.* 50 millim.

2034. *Antarctia angustipennis*. (Plate XLIX. fig. 6.)

Antheua angustipennis, Wlk. iii. 767 (1855); Kirby, Cat. Het. p. 582.

♀. Head, thorax, and abdomen fulvous; antennæ, tibiæ, and tarsi dull brown. Fore wing dull brown; a slight fulvous streak in base of submedian fold; fasciæ of diffused black scales along median nervure to beyond the cell and on vein 1 to beyond middle. Hind wing dull brown.

Hab. C. COLONY (*Drège*), 1 ♀ type. *Exp.* 50 millim.

2035. *Antarctia persimilis*. (Plate XLIX. fig. 4.)

Antarctia persimilis, Burm. Descr. Rep. Arg. v. p. 452 (1878); Kirby, Cat. Het. p. 225.

♂. Dark reddish brown, irrorated with fuscous; fore femora dull orange above; abdomen dull orange at sides. Fore wing with the veins slightly paler; an indistinct dark discoidal spot. Hind wing rather more fuscous brown, somewhat paler towards base; a very indistinct discoidal spot.

♀. Abdomen dorsally dull orange, with diffused fuscous bands.

Hab. BRAZIL, Rio Janeiro, Castro Paraña, 1 ♀. *Exp.*, ♂ 36, ♀ 48 millim.

2036. *Antarctia paula*. (Plate XLIX. fig. 21.)

Motada paula, Schaus, J. N. Y. Ent. Soc. iv. p. 142 (1896).

♂. Head and thorax pale brown; antennæ whitish; palpi, lower part of frons, and pectus in front blackish; abdomen brownish grey. Fore wing grey-brown, irrorated with dark scales; a prominent dark discoidal spot; cilia whitish at tips. Hind wing whitish slightly tinged with brown, especially towards termen; a slight discoidal spot.

♀. Hind wing slightly browner.

Hab. BRAZIL, Castro Paraña, 1 ♂, 1 ♀. *Exp.*, ♂ 34, ♀ 42 millim. Type † in Coll. Schaus.

2037. *Antarctia rudis*. (Plate L. fig. 1.)

Paracles rudis, Butl. Trans. Ent. Soc. 1882, p. 5; Kirby, Cat. Het. p. 225.

♂. Dull reddish brown; antennæ with the branches darker; abdomen with a fulvous tinge on dorsum. Hind wing paler.

Hab. CHILI, Valparaíso (*Edmonds, J. J. Walker*), 2 ♂ type. *Exp.* 46 millim.

2038. *Antarctia sericea*. (Plate XLIX. fig. 14.)

Palustra sericea, Schaus, J. N. Y. Ent. Soc. iv. p. 142 (1896).

♂. Head and thorax red-brown to black-brown; antennæ with the shaft white above towards base; femora orange above; abdomen orange-fulvous, the ventral surface black-brown. Fore wing dull reddish brown to grey-brown. Hind wing nearly pure white, some orange hair on basal inner area. Underside of fore wing with the whole discal area white.

Ab. 1. Hind wing, with the veins of terminal half, the costal area, and termen suffused with brown.

♀. Hind wing pale brown, paler towards base.

Hab. BRAZIL, São Paulo (*Jones*), 2 ♀, Castro Paraña, 1 ♂. *Exp.*, ♂ 42, ♀ 60 millim. Type in Coll. Schaus.

2039. *Antarctia vulpina*.

Antarctia vulpina, Hübn. Samml. Ex. Schmett. ii. (1827); Kirby, Cat. Het. p. 225.

Arctia pallipecta, Boisd. Bull. Soc. Ent. Fr. (3) vii. p. clviii (1859); Kirby, Cat. Het. p. 225.

Palustra uruguayensis, Berg, Bull. Soc. Ent. Fr. (6) v. p. cexii (1886); Kirby, Cat. Het. p. 225.

♂. Head and thorax bright red-brown; shaft of antennæ white; abdomen dorsally orange. Fore wing bright red-brown; the costal edge yellowish white; cilia white at tips. Hind wing white; the base of inner area with some orange hair; the costa and veins towards apex brownish.

♀. Fore wing with the costa slightly pale; cilia not white at tips. Hind wing pale brown.

Hab. URUGUAY; ARGENTINA, Buenos Ayres (*Berg*), 2 ♂, 1 ♀. *Exp.*, ♂ 40, ♀ 58 millim.

SECT. II. Palpi with the 3rd joint minute, not reaching beyond the frons.

A. Wings with the veins concolorous *brunnea*.

B. Wings with the veins whitish.

a. Hind wing of female brown, with the veins pale *ducinfieldia*.

b. Hind wing white, female with brown streaks in interspaces of terminal area *venata*.

2040. *Antarctia brunnea*.

Antarctia brunnea, Hübn. Zutr. Ex. Schmett. iii. p. 7, ff. 403, 404 (1827);

Kirby, Cat. Het. p. 225.

Antarctia severa, Berg, Acta Acad. Nac. Cord. i. p. 76 (1875).

Motada amaryllis, Schaus, J. N. Y. Ent. Soc. iv. p. 142 (1896).

♂. Head and thorax red-brown, mixed with dark brown; abdomen greyish brown, dull fulvous towards base and extremity. Fore wing brown, with blackish costal fascia. Hind wing rather paler, especially towards base.



Fig. 187.—*Antarctia brunnea*, ♀. †.

Ab. 1. Much paler and more fulvous brown; abdomen with the ter-

minial half greyish; hind wing pale ochreous brown; cilia of both wings whitish at tips.

Ab. 2. *amaryllis*. Much paler brownish fulvous; abdomen whitish towards extremity; fore wing often without trace of the darker costal fascia; hind wing paler.

♀. Uniform orange-fulvous, the tarsi dark, the anal tuft white.

Hab. BRAZIL, Castro Paraña, 1 ♀; ARGENTINA; PATAGONIA, Rio Santo Cruz. *Exp.*, ♂ 36, ♀ 46 millim. Type † ♀ *amaryllis* in Coll. Schaus.

Larva. Burm. Descr. Rep. Arg. v. p. 451.

Thickly clothed with hair; blackish, with yellow stripe and whitish marks on ventral surface. Food-plants, *Xanthium spinosum*, *Gaillardia scabiosoides*, *Scleropus amarantoides*, etc.

*2041. *Antarctia ducinfeldia*. (Plate XLIX. fig. 9.)

Motada ducinfeldia, Schaus, J. N. Y. Ent. Soc. iv. p. 142 (1896).

♀. Head and thorax pale ochreous brown; antennæ whitish; abdomen pale dull orange, with dorsal maculate blackish bands, the ventral surface blackish with orange sublateral bands, the anal tuft fulvous. Fore wing ochreous, very thickly irrorated with fuscous, the veins and margins pale ochreous. Hind wing darker, more thickly irrorated with fuscous, the veins and cilia pale ochreous.

Hab. BRAZIL, Castro Paraña, type † ♀ in Coll. Schaus. *Exp.* 64 millim.

2042. *Antarctia venata*. (Plate L. fig. 17.)

Antarctia venata, Schaus, P. Z. S. 1894, p. 233.

♂. Head and thorax reddish brown, the extremity of patagia with some white hair; abdomen yellowish; pectus, legs, and ventral surface of abdomen dark brown, the femora yellow above. Fore wing reddish brown, the veins striped with white, finely below costa. Hind wing pure white.

♀. Hind wing with the interspaces tinged with brown, becoming streaks on terminal area.

Hab. BRAZIL, Castro Paraña, 1 ♀. *Exp.* 34 millim. Type † in Coll. Schaus.

Genus **PARACLES.**

Paracles, Wlk. iii. 717 (1855) Type. *contraria.*

Proboscis aborted, minute; palpi porrect to just beyond frons and clothed with long hair; head, thorax, and abdomen clothed with long hair; antennæ of female bipectinate, with short branches ending in a bristle. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8 and 9, 10 stalked; 11 free. Hind wing with vein 3 from before angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from before middle of cell.

2043. *Paracles contraria.*

Paracles contraria, Wlk. iii. 717 (1855); Kirby, Cat. Het. p. 277.

♀. Head, thorax, and abdomen dark brown; antennæ whitish; abdomen with orange-yellow subdorsal stripes. Fore wing dark brown, with yellowish-white costal fascia narrowing to a point before apex; the base of inner margin yellowish. Hind wing white, the costal area suffused with dark brown; the inner margin and cilia yellowish.

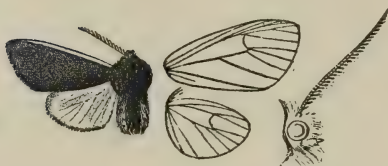


Fig. 188.—*Paracles contraria*, ♀. $\frac{1}{2}$.

Hab. AMAZONS, Pará, 2 ♀ type, Santarem (*Austen*), 1 ♀. *Exp.* 36 millim.

Genus **STENUCHA**, nov.

Type, *S. dolens*.

Proboscis minute; palpi porrect, minute; frons with rounded tuft; antennæ of female ciliated; tibiae with the spurs moderate. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 7, 8 stalked; 9, 10 stalked; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 from middle of discocellulars; 6, 7 shortly stalked; 8 from one-third of cell.

*2044. *Stenucha dolens.*

Ctenucha dolens, Druce, Biol. Centr.-Am., Het. ii. p. 360, pl. 73. f. 4 (1897).



Fig. 189.—*Stenucha dolens*, ♀. $\frac{1}{2}$.

♀. Uniform dull bronze-fuscous; (abdomen wanting); hind wing slightly darker and bluer.

Hab. MEXICO, 1 ♀ type † in Coll. Staudinger. *Exp.* 34 millim.

Genus **PSYCHARIUM.**

Type.

Psycharium, Herr.-Schäff. Aussereur. Schmett. p. 76 (1850) *pellucens*.

Proboscis absent; palpi minute, porrect; antennæ of female clothed with hair above, short; head, thorax, pectus, legs, abdomen at base and extremity and on ventral surface clothed with very long hair; tibiæ with the spurs minute, hind tibiæ with the medial spurs absent; wings very sparsely clothed with hair. Fore wing rather long and narrow, the inner margin arched towards base; vein 3 from long before angle of cell; 5 from just above angle; 6 from middle of discocellulars; 7 from below upper angle or shortly stalked with 8, 9; 10 absent; 11 free. Hind wing with vein 3 from well before angle of cell; 5 from above angle; 6 from middle of discocellulars; 8 from or from just before angle of cell.

2045. *Psycharium pellucens*.

Psycharium pellucens, Herr.-Schäff. Aussereur. Schmett. f. 461 (1850); Kirby, Cat. Het. p. 498.

♀. Head and thorax clothed with very long black and white hair; abdomen with the first two segments clothed with long black-brown hair, the medial segments dorsally golden cupreous, the terminal segments and ventral surface clothed with very long black and white hair. Fore wing very sparsely clothed with black and

Fig. 190.—*Psycharium pellucens*, ♀. 1.

white hair, the margins narrowly black; a blackish streak in cell and a spot in end of it surrounded by a white ring; an oblique series of dentate white spots from costa to vein 4. Hind wing very sparsely clothed with brown hair; the margins narrowly brown.

Hab. CAPE COLONY, Grahamstown, 1 ♀, Capetown (*Claremont*), 1 ♀. *Exp.* 42 millim.

Genus **CHLANIDOPHORA.**

Type.

Chlanidophora, Berg, Bull. Mosc. lii. p. 9 (1877) *patagiata*.

Proboscis absent; palpi porrect, short; frons with truncate conical prominence; antennæ of male simple; head and thorax nearly smoothly scaled; tibiæ with the spurs short, the fore tibiæ with curved apical claw on outer side; abdomen with some rough hair on base of dorsum and lateral tufts towards extremity. Fore wing with vein 3 before angle of cell; 5 from just above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 from below middle of discocellulars; 6, 7 stalked; 8 from middle of cell.

2046. *Chlanidophora patagiata*.

Chlanidophora patagiata, Berg, Bull. Mosc. lii. pp. 11, 96 (1877); Kirby, Cat. Het. p. 259.

♂. Head and thorax black; vertex of head, shoulders, and patagia with orange spots; tegulæ and metathorax with orange

bands; femora crimson above; abdomen black with orange bands, the hair at base and lateral tufts towards extremity pale crimson, the ventral surface yellowish, the anal tuft mixed with crimson. Fore wing white tinged with pink, some black marks on base of costa; a rather broken-up patch on basal inner area with a spot at its extremity below the cell; an antemedial line, incurved above vein 1; a spot towards upper angle of cell, a bar across the end, and

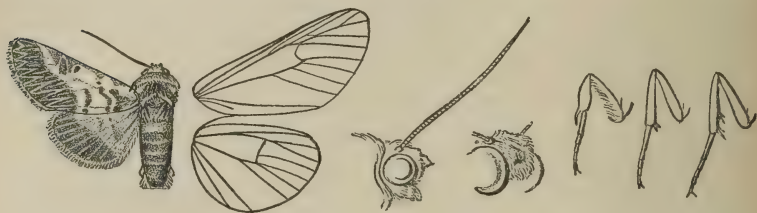


Fig. 191.—*Chlanidophora patagiata*, ♂. 1.

an elliptical discoidal spot, the two latter conjoined to a patch on costa interrupted by fine white streaks on the veins; a line from origin of vein 2 to inner margin, excurved below submedian fold; the terminal area black, its inner edge incurved below middle, the veins on it white, as also a fine dentate line, its dentitions extending to termen and to the inner edge of the black area except towards apex; cilia chequered crimson and black. Hind wing pale crimson; slight black marks in end of cell and on discocellulars and a band from origin of vein 2 to vein 1; the terminal area black, narrowing to tornus and with white streaks on the veins; cilia crimson, ochreous at tips.

Hub. PATAGONIA, Carmen, type † ♂ in Mus. Buenos Ayres. *Exp.* 40 millim.

Genus **CARIDARCTIA**, nov.

Type, *C. albicancellata*.

Proboscis aborted, minute; palpi porrect, not reaching as far as frons, which has a large rounded prominence; antennæ of male bipectinate, with short stiff branches; tibiæ with the spurs short, fore tibia with a short claw on outer side. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from well above angle; 6, 7 from upper angle; 8 from middle of cell.

2047. *Caridarctia albicancellata*.

Arctia albicancellata, Burm. Descr. Rep. Arg. v. p. 449 (1878); Kirby, Cat. Het. p. 270.

♂. Black; palpi, sides of frons, vertex of head, antennæ, and edges of tegulæ and patagia ochreous white; thorax irrorated with ochreous; pectus with tufts of pink hair; legs banded with ochreous white, the femora pink above; abdomen blue-black, with orange-yellow lateral tufts of hair and reddish anal tuft, the ventral

surface yellowish white. Fore wing black, irrorated with ochreous white; the veins, cell, and submedian fold ochreous white; a fine antemedial line angled outwards in submedian fold and inwards on vein 1; orbicular and reniform narrow, outlined with ochreous white; a postmedial line excurved from costa to vein 3, then incurved; a fine strongly dentate subterminal line; cilia black at



Fig. 192.—*Caridartia albicancellata*, ♂. 1.

base with pink points at the veins, white at tips. Hind wing with the basal and inner areas bright pink; a pink discoidal lunule; a curved ochreous-white postmedial line, pinkish at costa; cilia pink.

Hab. ARGENTINA, Buenos Ayres (*Leech*), 2 ♂. *Exp.* 56 millim.

Genus **CREMNOPHORA**, nov.

Type, *C. angasi*.

Proboscis fully developed; palpi obliquely upturned, the 3rd joint moderate; frons with oblique truncate elliptical prominence; antennae of male bipectinate with rather long branches. Head and thorax clothed with rough scales, and with a crest on metathorax; tibiae with the spurs long. Fore wing with vein 3 from before angle of cell, 5 from above angle; 6 from below upper angle; 9 from 10 anastomosing with 8 to form a short areole; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from well above angle; 6, 7 from upper angle; 8 from before middle of cell; termen of both wings crenulate.

2048. **Cremnophora angasi**.

Apina angasii, Wlk. iii. 757 (1855); Kirby, Cat. Het. p. 442.

Black; palpi and tufts above the eyes white and pink; antennae



Fig. 193.—*Cremnophora angasi*, ♂. 1.

pale fulvous; thorax irrorated with white; white patches on patagia, a pink tuft on prothorax, and a large tuft on metathorax; legs irrorated with white; abdomen with ventral white bands, slightly developed on dorsum on last two segments. Fore wing strongly

irrorated with white; a white mark with pink point on it at base; a subbasal white band with irregular edges; the orbicular, reniform, and claviform stigmata large and white with pink marks on their edges; a minutely waved postmedial white line, excurved from below costa to vein 3, then incurved; a terminal series of white patches; cilia pink and white intersected with black. Hind wing with the cilia white, the underside irrorated with white.

Hab. S. AUSTRALIA (*Angas*), 1 ♂, 1 ♀ type. *Exp.* 46 millim.

Genus **PROSCHALIPHORA**, nov.

Type, *P. citricostata*.

Proboscis aborted, minute; palpi porrect, short; frons with very long flattened corneous process, bifid in front and with a corneous plate below it excised in front; antennæ of male bipectinate with moderate branches; head and thorax clothed with rough hair; tibiæ with the spurs moderate. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form a short areole; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from well above angle; 6, 7 from upper angle; 8 from middle of cell.

2049. *Proschaliphora citricostata*, n. sp.

♂. Palpi black, yellow at base and extremity of 2nd joint; antennæ with black tuft on basal joint; frons orange; vertex of head and front of thorax lemon-yellow, the rest of thorax pale yellow; legs striped with black above, the tarsi black with pale yellow bands; abdomen orange-yellow with some fuscous on dorsum, and ventral series of black bands.



Fig. 194.

Proschaliphora citricostata, ♂. ♀.

Fore wing very pale yellow, the costal area, the inner margin, and termen narrowly lemon-yellow; medial black points at origin of vein 2 and on vein 1; a discoidal point; a postmedial series of points incurved below vein 3. Hind wing lemon-yellow, with blackish discoidal point.

Hab. BR. E. AFRICA, Athi R. (*Betton*), 1 ♂ type. *Exp.* 36 millim.

Genus **PROCANTHIA**.

Type.

Procanthia, Hmps. Ann. S. Afr. Mus. ii. p. 59 (1900) *argentea*.

Proboscis absent; palpi porrect, clothed with rough hair; frons with large rounded prominence with sharp corneous spine in centre, and curved corneous plate below it; antennæ of female bipectinate; head and thorax clothed with long rough hair, some of them on thorax spatulate; tibiæ with the spurs short; abdomen dorsally clothed with rough hair at base. Fore wing with the costa nearly straight, the termen obliquely rounded; vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 7, 8 to form the areole. Hind wing with veins 3, 4 from angle of cell; 5 from well above angle; 6, 7 shortly stalked; 8 from middle of cell.

2050. *Procanthia argentea*.*Procanthia argentea*, Hmps. Ann. S. Afr. Mus. ii. p. 59 (1900).

♀. Palpi and frons yellow; vertex of head white at sides, grey at middle, some of the hairs tipped with black; thorax grey, tegulæ edged with yellow, spots on shoulders and metathorax yellow, the spatulate hairs tipped with black; pectus and legs fuscous and grey, the latter with some yellow hair; abdomen orange-yellow, the hair at base and dorsal bands grey, lateral blackish bands, the ventral surface grey. Fore wing silvery white; two subbasal black spots below costa and two below cell with some yellow between them; an antemedial yellow band edged on each

Fig. 195.—*Procanthia argentea*, ♀. †.

side by black spots, bent inwards in cell and angled inwards in submedian fold; a V-shaped black mark in cell near extremity; a black line just beyond the discocellulars; a yellow postmedial band edged by black spots, continuous on outer side, broken in places on inner, obliquely curved from costa to join the lower end of the line beyond cell and V-mark in it, then erect to just above inner margin; a subterminal series of black spots; cilia pale yellow. Hind wing nearly pure white; cilia pale yellow at base.

Hab. C. COLONY, Grahamstown, 1 ♀ type. *Exp.* 46 millim.

Genus **GRAMMARCTIA**.

Type.

Grammarctia, Auriv. Ent. Tidskr. 1899, p. 243 *bilinea*.

Proboscis fully developed; palpi porrect, extending to end of the large rounded frontal prominence; antennæ of female simple; tibiæ with the spurs moderate. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from below upper angle; 9 from 10 anastomosing with 7, 8 to form the areole; 11 free. Hind wing with vein 3 from before angle of cell; 5 from above angle; 6, 7 shortly stalked; 8 from before middle of cell.

2051. *Grammarctia bilinea*.

Setina bilinea, Wlk. xxxi. 237 (1864); Kirby, Cat. Het. p. 910.

♀. Head black, with yellow lateral patches above the frons; neck with orange ring; thorax yellowish white with black stripe on vertex; pectus and legs mostly fuscous; abdomen orange, with dorsal series of fuscous spots more or less developed and ventral fuscous bands. Fore wing yellowish white; a black fascia in sub-

median fold from close to base to close to termen, narrowing at extremities, and a fascia in discal fold from middle of cell to close to termen; a terminal series of black points. Hind wing orange,



Fig. 196.—*Grammarctia bilinea*, ♀. †.

with more or less developed terminal series of black points, and often the terminal half suffused with black.

Hab. MASHONALAND, Salisbury (*Marshall*), 4 ♀; NATAL, Durban (*Bowker*), 3 ♀ and 1 ♀ type. *Exp.* 36 millim.

Genus PHRYGANOPTERYX*.

	Type.
<i>Phryganopteryx</i> , Saalm. Lep. Madag. i. p. 155 (1884)	<i>strigilata</i> .
<i>Maxia</i> , Kirby, Cat. Het. p. 206 (1893)	<i>strigilata</i> .

Proboscis fully developed; palpi oblique, reaching just beyond the frons; antennæ of female ciliated; tibiæ with the spurs short. Fore wing with vein 2 from just beyond middle of cell; 3 from near angle; 4, 5 from angle; 6 from just below upper angle; 9 from 10 anastomosing with 7, 8 to form the areole; 11 free. Hind wing with vein 2 from beyond middle of cell; 3 from angle; 4, 5 stalked; 6, 7 from upper angle; 8 from before middle of cell.

*2052. *Phryganopteryx strigilata*.

Macrobroschia strigilata, Saalm. Ber. Senck. Ges. 1877, p. 91; id. Lep. Madag. i. p. 156, pl. 6. f. 94; Kirby, Cat. Het. p. 206.



Fig. 197.—*Phryganopteryx strigilata*, ♀. †.

♀. Head blackish, the vertex pale yellow; tegulæ pale yellow with black spots; base of patagia yellow; some crimson just behind tegulæ; thorax brown, with paired black spots on meso- and

* Named *Maxia* in the generic phylogeny; it was renamed by Mr. Kirby as being preoccupied, but I cannot find out where, nor can he tell me.

metathorax; coxæ yellow; abdomen crimson above, the first two segments fuscous brown followed by dorsal black points, the terminal segment black with the anal tuft yellow, the ventral surface yellow with black bands. Fore wing brown; a yellow spot at base; some fuscous suffusion near the series of black streaks; subbasal and antemedial series of streaks on the veins and in submedian fold, the streaks varying in length; a spot in middle of cell and rather oblique streak in end of it, with dark mark above it from costa; irregular postmedial and terminal series of streaks on the veins, and a terminal series of spots in the interspaces. Hind wing black-brown; a yellow spot just before apex,

Hab. MADAGASCAR, Nossi-bé, type † ♀ in Mus. Lübeck. *Exp.* 66 millim.

Genus **EUVERNA.**

Type.

Euverna, Neum. & Dyar, Ent. News, iv. p. 141 (1893) *clio*.

Proboscis aborted; palpi obliquely upturned; antennæ of female serrate; tibiæ with the spurs short; abdomen dorsally clothed with long hair at base. Fore wing with vein 2 from beyond middle of cell; 3 from near angle; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 7, 8 to form the areole; 11 free. Hind wing with vein 2 from beyond middle of cell; 3 from near angle; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

*2053. **Euverna clio.**

Seirarctia clio, Pack. Proc. Ent. Soc. Phil. iii. p. 120 (1864); Stretch, Zyg. & Bomb. N. Am. p. 82, pl. 3. f. 1; Kirby, Cat. Het. p. 242.

♀. White; palpi black at sides, the basal joint yellow; frons with yellow lateral spots; tegulæ with black lateral spots and edged with yellow; patagia with black and yellow stripes; thorax with black stripe; legs striped with black, the fore coxæ yellow; abdomen yellow above, with dorsal and lateral series of black spots. Fore



Fig. 198.—*Euverna clio*, ♀. †.

wing with two black points at base and one at upper angle of cell; black streaks on median nervure, veins 1, 2, 3, 4, 6, 7, 8, and on middle of inner margin; a black point on extremity of vein 5. Hind wing with black streaks on the veins of terminal area, increasing in length towards costa.

Hab. U.S.A., Arizona, Colorado, S. California. *Exp.* ♀ 50 millim.

Genus **PARASEMIA.**

Type.

<i>Parasemia</i> , Hübn. Verz. p. 81 (1827)	<i>plantaginis</i> .
<i>Nemeophila</i> , Steph. Ill. Brit. Ent., Haust. ii. p. 112 (1828) ...	<i>plantaginis</i> .
<i>Eupsychoma</i> , Grote, Proc. Ent. Soc. Phil. iv. p. 317	<i>plantaginis</i> .

Proboscis aborted, minute; palpi porrect to just beyond frons and clothed with rough hair; head and thorax clothed with rough hair, especially in male; eyes small; antennæ of male bipectinate, of female minutely serrate; tibiæ with the spurs long; abdomen rather slender, dorsally clothed with rough hair at base in male. Fore wing with vein 3 from before angle of cell, 5 from above angle; 6 from cell or from areole; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with vein 3 from close to angle of cell; 5 from well above angle; 6, 7 from upper angle; 8 from middle of cell.

2054. *Parasemia plantaginis*.

- Bombyx plantaginis*, Linn. Syst. Nat. i. p. 501 (1758); Esp. Schmett. iii. p. 188, pl. 36. ff. 1-8; Hübn. Eur. Schmett. ii. ff. 127, 128; Godt. Léop. Fr. iv. p. 320, pl. 23. ff. 2-4; Steph. Ill. Brit. Ent., Haust. ii. p. 72; Staud. Cat. p. 56; Kirby, Cat. Het. p. 250.
- Bombyx alpicola*, Scop. Ent. Carn. p. 205 (1763).
- Bombyx hospita*, Den. & Schiff. Wien. Verz. p. 310 (1776); Esp. Schmett. iii. p. 188, pl. 36. ff. 3, 4; Hübn. Eur. Schmett. ii. f. 126; Streck. Proc. Davenp. Soc. ii. p. 272, pl. 9. f. 2.
- Bombyx matronalis*, Freyer, Neu. Beitr. v. p. 37, pl. 405 (1843).
- Chelonia caucasica*, Herr.-Schäff. Schmett. Eur. ii. p. 147, ff. 42-44 (1845).
- Nemeophila petrosa*, Wlk. iii. 626 (1855); Kirby, Cat. Het. p. 251.
- Lithosia ncticans*, Mén. Bull. Acad. Pét. xvii. p. 217 (1859); id. Schrenck's Reisen, Lep. p. 50, pl. 4. f. 4; Kirby, Cat. Het. p. 911.
- Platarctia modesta*, Pack. Proc. Ent. Soc. Philad. iii. p. 113 (1864); Kirby, Cat. Het. p. 251.
- Platarctia scudderii*, Pack. Proc. Ent. Soc. Philad. iii. p. 113 (1864); Kirby, Cat. Het. p. 251.
- Eupsychoma geometrica*, Grote, Proc. Ent. Soc. Philad. iv. p. 318, pl. 2. f. 1 (1865); Kirby, Cat. Het. p. 251; Streck. Proc. Davenp. Soc. ii. p. 273, pl. 9. f. 3.
- Nemeophila cæspitis*, Grote & Rob. Trans. Am. Ent. Soc. i. p. 337, pl. 6. f. 43 (1868).
- Nemeophila cichorii*, Grote & Rob. Trans. Am. Ent. Soc. i. p. 338, pl. 6. f. 44 (1868).
- Nemeophila macromera*, Butl. Trans. Ent. Soc. 1881, p. 5; Kirby, Cat. Het. p. 251.
- Nemeophila macromera*, ab. *leucomera*, Butl. Trans. Ent. Soc. 1881, p. 5.
- Nemeophila macromera*, ab. *melanomera*, Butl. Trans. Ent. Soc. 1881, p. 5.
- Nemeophila geddesi*, Neum. Papilio, iii. p. 137 (1884); Kirby, Cat. Het. p. 251.
- Nemeophila selwynii*, H. Edw. Can. Ent. xvii. p. 65 (1885); Kirby, Cat. Het. p. 251.
- Nemeophila plantaginis*, ab. *floccosa*, Græser, Berl. ent. Zeit. xxxii. p. 115 (1888).
- Nemeophila plantaginis*, var. *syfanica*, Grumm-Grschm. Hor. Soc. Ent. Ross. xxv. p. 462 (1891); Kirby, Cat. Het. p. 911.
- Nemeophila plantaginis*, ab. *melas*, Christ, Deutsch. ent. Zeit., Lep. vi. p. 88 (1893).
- Nemeophila plantaginis*, var. *flava*, Kilian, Soc. Ent. xii. p. 4 (1897).

♂. Head and thorax black; palpi orange; basal joint of antennæ orange with yellowish hair; sides of tegulæ orange; patagia edged with yellowish; femora striped with orange and fringed with orange

hair; tibiæ and tarsi with whitish stripes; abdomen orange, with broad black stripe on dorsum, lateral and sublateral series of points and ventral spots or bands. Fore wing black; the basal half of costa orange; yellowish basal and antemedial spots on costa; an irregular fascia below the cell extending just into cell at middle; a discoidal spot usually connected with costa; an irregular oblique postmedial band from costa to termen at vein 2, usually connected

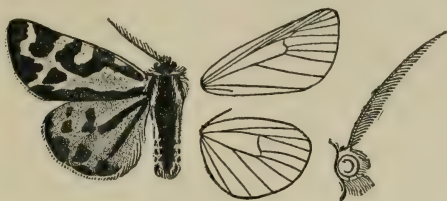


Fig. 199.—*Parasemia plantaginis*, ♂. 1.

with the fascia below the cell by a spur given off at vein 3; a band from costa before apex, bent outwards at vein 6, then inwards and usually joining the postmedial band at vein 4; cilia yellowish. Hind wing orange, with black fascia on vein 1 to beyond middle; a fascia on median nervure usually connected with the discoidal lunule; sub-terminal spots on veins 2 and 5 and usually a smaller spot on vein 7; an irregular terminal maculate band, expanding into a large patch at middle and often interrupted near veins 2 and 1.

Ab. 1. *macromera*. Fore wing with the markings whitish.

Ab. 2. *caucasica*. Fore wing with the markings as in female; abdomen and hind wing strongly tinged with crimson.—Caucasus.

Ab. 3. *hospita*. Hind wing with the ground-colour white.

Ab. 4. *matronalis*. Hind wing black, with orange markings confined to terminal area.

Ab. 5. *melanomera*. Hind wing black, with white markings on terminal area.—Japan.

Ab. 6. Hind wing wholly black.

a. Fore wing with discoidal spot.

a'. *ncticans*. Fore wing with the submedian fascia and postmedial line interrupted.—Siberia.

b'. *geometrica*. Fore wing with the submedian fascia and postmedial line entire.—U.S.A.

b. *scudderi*. Fore wing without discoidal spot.—U.S.A.

♀. Palpi black; sides of tegulæ crimson; patagia with yellowish patches; legs black; abdomen black, with broad lateral crimson stripes and series of black spots. Fore wing with the markings either crimson or orange at costa and termen; cilia sometimes black. Hind wing crimson, with the black fasciæ confluent on basal area, or the crimson markings reduced to those on terminal area.

Ab. 1. Hind wing with the markings orange-yellow.

a. petrosa. Fore wing with the markings whitish.—U.S.A.

b. cœspitis. Fore wing with the markings orange-yellow.

Hab. EUROPE, Britain, France, Germany, Zeller Coll., Switzerland, Zeller and Frey Colls., Norway, Zeller Coll.; ARMENIA; CAUCASUS, 1 ♂, 2 ♀, Zeller Coll.; AMUR, 5 ♂, 3 ♀; TURKESTAN, Kuku-Noor, 1 ♂; JAPAN, Oiwake (*Pryer*), 4 ♂, 2 ♀, (*Fenton*) 3 ♂, types *leucomera*, *macromera*, and *melanomera*; ALASKA, 1 ♀, Grcte Coll.; BR. COLOMBIA; CANADA; U.S.A., Colorado (*Ld. Derby*, *Cockerell*), 4 ♂, 3 ♀, type *petrosa*, California. *Exp.* 36–46 millim.

Larva. Meyr. Brit. Lep. p. 41; Barrett, Lep. Brit. ii. p. 263, pl. 74. f. 2.

Black; hair black or dark brown; on somites 4–6 bright reddish-brown, sometimes reddish on sides; head black. Food-plants, *Myosotis*, *Plantago*, etc. 8–4.

Genus EUCHARIA.

	Type.
<i>Eucharia</i> , Hübn. Verz. p. 181 (1827).....	<i>festiva</i> .
<i>Ammobiota</i> , Wllgrn. Skand. Het. ii. p. 304 (1886)	<i>festiva</i> .

Proboscis aborted, minute; palpi porrect to well beyond the frons; head, thorax, and abdomen clothed with woolly hair; antennæ of male with moderate branches, of female with short branches, the shaft roughly scaled above; tibiæ smoothly scaled. Fore wing with vein 3 from before angle of cell; 5 from just above angle; 6 from just below upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with vein 3 from close to angle of cell; 5 from just above angle; 6, 7 from upper angle; 8 from middle of cell.

2055. *Eucharia festiva*.

Bombyx festiva, Hüfn. Berl. Mag. ii. (4) pp. 416, 437 (1766); Kirby, Cat. Het. p. 264.

Bombyx hebe, Linn. Syst. Nat. i. (2) p. 820 (1767); Esp. Schmett. iii. p. 181, pl. 34. ff. 1–4; Hübn. Eur. Schmett. ff. 129, 296; Godt. Léop. Fr. iv. p. 306, pl. 31. ff. 1, 2; Mill. Icones Léop. ii. p. 17, pl. 53. ff. 1, 3; Staud. Cat. p. 57.

Phalœna monacha, Fourer. Ent. Paris. ii. p. 260 (1785).

Chelonia interrogationis, Mén. Cat. Léop. Pet. iii. p. 147, pl. 15. f. 1 (1863) Kirby, Cat. Het. p. 265.

Arctia hebe, var. *sartha*, Staud. Stett. ent. Zeit. xlviii. p. 82 (1887); Honr. Berl. ent. Zeit. xxxii. p. 497, pl. 7. ff. 5–7.

Arctia hebe, ab. *albicans*, Fuchs, Jarb. Nass. Ver. lii. p. 128 (1899).



Fig. 200.—*Eucharia festiva*, ♂. 1.

Head and thorax velvety blue-black; edges of tegulæ crimson; fore coxæ crimson with black spots; abdomen blue-black, with

conjoined subdorsal crimson bands except on terminal segments. Fore wing blue-black, with yellowish or pure white band edged with fulvous yellow; two points at base; oblique subbasal and antemedial bands, the latter sometimes not reaching inner margin or reduced to spots or strigæ; a medial band excurved at middle or reduced to spots and strigæ; a postmedial band excurved below costa and conjoined to the sinuous subterminal band by a fascia between veins 3, 4. Hind wing pale, tinged with crimson towards base and inner margin, or crimson, or scarlet; an oblique medial black band, often not reaching inner margin, sometimes absent; a discoidal lunule usually present; a subterminal blue-black spot from costa to vein 4; a spot from vein 3 to termen at vein 1; cilia black.

Ab. 1. *albicans*. Fore wing with the black markings replaced by ochreous.

Ab. 2. *interrogationis*. Fore wing with the black ground-colour very much reduced; a white discoidal spot on the black band.

Ab. 3. *sartha*. Fore wing entirely black.

Ab. 4. Wings black: fore wing with portions of the subterminal band.

Ab. 5. Fore wing with the basal half brownish on one side, on the other side the whole fore wing brownish; the hind wing yellowish with the apical half brownish.

Hab. FRANCE; BELGIUM; GERMANY, Zeller Coll.; LIVONIA; SWITZERLAND, Frey Coll.; GREECE, Merlin Coll.; ARMENIA; SYRIA; ALTAI. *Exp.* 44–64 millim.

Genus **ANAPHELA**.

Anaphela, Wlk. iii. 751 (1855) Type. *stellata*.

Proboscis aborted, minute; palpi porrect, short, clothed with long hair; antennæ of male bipectinate, with very short branches; eyes small; head and thorax clothed with rough hair. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from below upper angle; 9 and 10 anastomosing with 7, 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 shortly stalked; 5 from well above angle; 6, 7 from upper angle; 8 from beyond middle of cell.

2056. *Anaphela stellata*.

Agarista stellata, Guér. Icon. R. Anim., Ins. p. 493 (1844); Kirby, Cat. Het. p. 24.

Anaphela luctifera, Wlk. iii. 751 (1855).



Fig. 201.—*Anaphela stellata*, ♂. 1.

♂. Head and tegulæ crimson; palpi black at tips; sides of frons with black hair; antennæ black; thorax black; metathorax with

crimson patch; fore coxæ and femora crimson; abdomen dorsally crimson, banded with black except at base, the ventral surface black. Fore wing black, creamy-white subbasal and medial rounded spots in cell extending to just below the cell; two similar conjoined discoidal spots; a sinuous subterminal series of small spots, the spot above vein 5 displaced inwards. Hind wing crimson, the base, termen, and cilia black.

Hab. MADAGASCAR, 4 ♂ type *luctifera*. *Exp.* 38 millim.

Genus EUARCTIA.

Type.

Carcinopyga, Feld. Reis. Nov. p. 2 (1874), non descr.; Hmps. n.

Moths Ind. iv. p. 492 (1896) *lichenigera*.

Euarctia, Staud. Stett. ent. Zeit. xlviii. p. 79 (1887) *proserpina*.

Proboscis aborted; palpi porrect to just beyond frons; antennæ of female simple; tibiæ with the spurs short; head, thorax, and abdomen clothed with rough hair. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from upper angle; 9 and 10 anastomosing with 8 to form the areole and emitted together; 11 from cell. Hind wing with veins 3 and 5 from close to angle of cell; 6, 7 from upper angle; 8 from before middle of cell.

A. Hind wing scarlet *lichenigera*.

B. Hind wing ochreous *proserpina*.

*2057. *Euarctia lichenigera*.

Carcinopyga lichenigera, Feld. Reis. Nov. pl. 101. f. 3 (1874); Hmps. n.

Moths Ind. ii. p. 36, & iv. p. 492; Kirby, Cat. Het. p. 911.

♀. Head and thorax grey-brown; antennæ black; abdomen crimson above, black at sides, the black expanding dorsally on



Fig. 202.—*Euarctia lichenigera*, ♀. †.
(From Moths Ind. iv. f. 260.)

terminal segment. Fore wing yellow-grey irrorated with black; the base yellow; five transverse yellow bands with waved edges, the postmedial band excurved round end of cell. Hind wing crimson; a black spot at end of cell; two elongate subterminal patches and a small spot above vein 1.

Hab. N.W. HIMALAYAS, Ladák. *Exp.* 70 millim. Type † in Coll. Rothschild.

*2058. *Euarectia proserpina*.

Euarectia proserpina, Staud. Stett. ent. Zeit. xlviii. p. 79 (1887); Gr.-Gr. Rom. Mém. iv. pl. xix. f. 7; Kirby, Cat. Het. p. 256.

♂. Head and thorax fuscous brown; abdomen ochreous brown, with a darker dorsal stripe tapering to a point before extremity. Fore wing ochreous tinged with brown; the base fuscous brown; four rather broad fuscous-brown bands excurved below costa and incurved below the cell; a paler subterminal band diffused to termen in places. Hind wing ochreous, with large blackish discoidal lunule and subterminal series of points on the veins except veins 3, 4.

♀. Abdomen ochreous with the three terminal segments black. Hind wing with indistinct maculate subterminal band, with two more distinct spots towards tornus.

Hab. C. ASIA, Samarkand, Oche, Chakhimardan. *Exp.*, ♂ 60, ♀ 70 millim. This species is unknown to me.

Larva. Dull brown; head black with two pale spots; legs black; a sublateral series of white spots; ventral surface pale ochreous brown; hair sparse, pale. Food-plants, *Artemisia* and *Euphorbia*.

Genus **ARCTIA**.

	Type.
<i>Arctia</i> , Schrank, Fauna Boica, ii. (2) p. 152 (1802)	<i>caia</i> .
<i>Zoota</i> , Hübn. Verz. p. 181 (1827)	<i>caia</i> .
<i>Hypercompa</i> , Hübn. Tentamen, p. 1, ined.	<i>caia</i> .

Proboscis aborted, minute; palpi porrect to just beyond the frons; antennæ of male bipectinate with moderate branches, of female serrate; head, thorax, and base of abdomen dorsally clothed with woolly hair; tibiæ with the spurs short. Fore wing broad; vein 3 from near angle of cell; 5 from just above angle; 6 from just below upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with vein 3 from near angle of cell; 5 from just above angle; 6, 7 from upper angle; 8 from middle of cell.

A. Fore wing with postmedial and subterminal lines conjoined at vein 4.

a. Fore wing red-brown.

a¹. Antennæ with the shaft white above..... *caia*.

b¹. Antennæ with the shaft black above, except sometimes at extremity *tibetica*. |

b. Fore wing deep black

 intercalaris. |

B. Fore wing with large spots and no transverse lines

 villica. |

2059. *Arctia caia*.

Bombyx caia, Linn. Syst. Nat. i. p. 500 (1758); Esp. Schmett. iii. p. 167, pls. 30-32; Hübn. Eur. Schmett. ii. ff. 130, 131; Steph. Ill. Brit. Ent., Haust. ii. p. 69; Godt. Léop. Fr. iv. p. 300, pl. 30. ff. 1-3; Ménétr. Cat. Léop. Pet. iii. p. 148, pl. 15. ff. 2, 3; Mill. Icones Léop. ii. p. 23, pl. 53. ff. 6, 7; Staud. Cat. p. 57; Kirby, Cat. Het. p. 258.

Phalena erinacea, Retz. Gen. Spec. Ins. p. 36 (1783).

Arctia caya, var. *wiskotti*, Staud. Hor. Ent. Ross. xiv. p. 333 (1878).

Arctia orientalis, Moore, A. M. N. H. (5) i. p. 230 (1878); Hmps. Moths Ind. ii. p. 16; Kirby, Cat. Het. p. 259.

Head and thorax red-brown; palpi fringed with scarlet below;

antennæ with the basal joint scarlet, the shaft white above; tegulæ edged with crimson, sometimes with a little white in front; a white streak often present above base of fore wing; femora scarlet above, the spurs whitish; abdomen scarlet above, with dorsal black bands except on basal and sometimes on terminal segments, the ventral surface brownish with scarlet segmental lines. Fore wing red-brown; a subbasal white band angled on median nervure, connected with the base by some irregular marks and emitting a streak in submedian fold to or towards the postmedial band; more or less developed antemedial and medial triangular patches on costa; the postmedial band angled at middle; the subterminal band oblique from costa to vein 6, where it is bent outwards to near termen, then inwards to the postmedial band at vein 4, then to termen at vein 2, where it is connected with a V-shaped mark above tornus sometimes reduced to a short oblique streak. Hind wing scarlet with blue-black spot at origin of vein 2, sometimes with a small spot below it; a discoidal spot usually present; three large subterminal spots, the upper sometimes connected with costa by a black patch.

Ab. 1. Fore wing with the white markings more or less reduced or altogether absent, sometimes replaced by grey-brown.

Ab. 2. Fore wing with the white markings very extensive and occupying the greater part of wing.

Ab. 3. Hind wing with the black spots replaced by yellow.

Ab. 4. *wiscotti*. All the scarlet markings replaced by yellow.

Ab. 5. Hind wing and abdomen brownish red.

Ab. 6. Hind wing more or less suffused with black, usually leaving some red at base and on inner area and sometimes on termen.

Hab. EUROPE, Britain, France, Germany, Zeller Coll., Switzerland, Greece, Merlin Coll.; ARMENIA; N. W. HIMALAYAS, Kashmir (*Thompson*), 3 ♂, Dalhousie (*Harford*), 1 ♀, Allahabad (*Hellard*), 1 ♂ type *orientalis*; ASSAM, Khâsis, Sibsagar. *Exp.* 58-78 millim.

Subsp. 1. *americana*, Harr. Rep. Ins. Mass. p. 246 (1841); Agassiz, Lake Superior, p. 391, pl. 7. f. 5; Stretch, Zyg. & Bomb. N. Am. pp. 95, 239, pl. 4. f. 4.

Euprepia phæosoma, Butl. A. M. N. H. (4) xx. p. 395 (1877); id. Ill. Het. B. M. iii. p. 7, pl. 42. f. 10; Kirby, Cat. Het. p. 259.

Euprepia phæosoma, var. *auripennis*, Butl. Trans. Ent. Soc. 1881, p. 7.

Euprepia opulenta, H. Edw. Papilio, i. p. 38 (1881); Kirby, Cat. Het. p. 259.

Hypercompa caja, var. *transmontana*, Neum. & Dyar, Ent. News, iv. p. 214 (1893).

Tegulæ with a broad white band in front.

(a) *phæosoma*. Abdomen and hind wing scarlet.—E. Siberia; Japan; Pacific N.-West.

Ab. 1. *opulenta*. Fore wing with the white markings very extensive and occupying the greater part of wing.—Amur; Alaska.

(b) *americana*. Abdomen scarlet; hind wing yellow.—U.S.A., N. Atlantic States.

(c) *auripennis*. Abdomen and hind wing yellow.—Japan.

Hab. ALTAI; AMUR, 1 ♂, 3 ♀; JAPAN, Yezo (*Pryer*), 3 ♂, 2 ♀,

Oiwake (*Pryer*), 1 ♀, Tokio (*Fenton*), 1 ♂, 2 ♀, type *auripennis*, Yokohama (*Jonas*, *Pryer*, *Lewis*), type ♀ *phæosoma*, Nikko (*Maries*), 1 ♂, 2 ♀; ALASKA; VANCOUVER I., 1 ♂, 1 ♀; BR. COLUMBIA: U.S.A., N.E. States, Buffalo, 1 ♂, 1 ♀, Grote Coll.

Subsp. 2. *utahensis*, H. Edw. Ent. Am. ii. p. 166 (1887).

Head and tegulæ crimson, the latter with a broad white band in front; abdomen scarlet; hind wing yellow.

Hab. U.S.A., Utah, Colorado (*Bruce*), 1 ♂.

Larva. Meyr. Brit. Lep. p. 42; Barrett, Lep. Brit. p. 268, pl. 71. f. 1.

Black; hairs very long, black and grey, browner on sides and on 1st and 2nd somites reddish brown; head black. Food-plants: *Urtica*, *Plantago*, etc. 8-5.

2060. *Arctia tibetica*.

Arctia tibetica, Feld. Reis. Nov. pl. 101. f. 12 (1874); Hmps. Moths Ind. ii. p. 17; Kirby, Cat. Het. p. 269.

Arctia suddra, Moore, P. Z. S. 1879, p. 395; Hmps. Moths Ind. ii. p. 16; Kirby, Cat. Het. p. 265.

Arctia cajula, Staud. Ent. Mo. Mag. xxii. p. 258 (1886); Kirby, Cat. Het. p. 259.

♂. Head and thorax red-brown; palpi whitish, brown at tips and fringed with scarlet below; antennæ black, with the basal joint



Fig. 203.—*Arctia tibetica*, ♂. 1. (From Moths Ind. vol. ii.)

scarlet; tegulæ edged with scarlet and white in front and at sides; patagia with whitish outer edge; thorax with scarlet stripes; legs striped with white, the femora scarlet above; abdomen blue-black, with scarlet segmental lines and anal tuft. Fore wing red-brown; a small white subbasal spot below costa and a patch below the cell with two brown spots on it; an antemedial often interrupted band oblique from costa to submedian fold where it is angled, and ending on vein 1; an oblique medial wedge-shaped bar from costa to median nervure; a small postmedial spot below vein 2; an oblique band from costa beyond middle to tornus with very irregular edges, often giving off a spur on inner side at vein 3 towards inner margin; some spots or a maculate band from costa before apex bent outwards to near termen at vein 6, then inwards to join the postmedial band at vein 4. Hind wing scarlet; an oblique antemedial band from costa to submedian fold, with a spot below it on vein 1; a discoidal point usually present; a large irregular subterminal spot from costa to

vein 4, and two conjoined spots towards tornus; some black points on termen; cilia yellow. Underside of fore wing suffused with scarlet, except on costa and apical area.

Ab. 1. Hind wing yellow.

♀. Thorax without white stripes.

Ab. 2. The type is a female with the markings of fore wing reduced to a few points; hind wing with the subterminal spots conjoined into a band connected with the base by streaks on costa and veins 2 and 1; some spots on apical half of termen.

Hab. TIBET; N.W. HIMALAYAS, Ladak (*Stoliczka*), type ♀ in Coll. Rothschild, Chitral (*Colomb*), 7 ♂, Kulu, 3 ♂, Kashmir (*McArthur*), 6 ♂, Dharmśāla, 1 ♂. *Exp.* 44–52 millim.

2061. *Arctia intercalaris*.

Euprepia intercalaris, Eversm. Bull. Mosc. xvi. p. 544, pl. 10. ff. 1 a, b (1843); Kirby, Cat. Het. p. 265.

Arctia alpherakii, Staud. Ent. Mo. Mag. xxii. p. 258 (1886); Kirby, Cat. Het. p. 259.

♂. Head, thorax, and abdomen black; palpi white, fringed with scarlet below; basal joint of antennæ and shaft above white; tegulæ edged in front and at sides with scarlet and white; short whitish streaks on patagia; femora scarlet above; tibiae and tarsi brownish white; abdomen with scarlet segmental lines and anal tuft. Fore wing black; an oblique somewhat triangular white patch from base of costa to above inner margin, with some black points on it; a small triangular antemedial spot on costa, and an irregular diamond-shaped spot from median nervure to above inner margin; an irregular medial mark from costa ending in a point on vein 2; an irregular postmedial band excurved below costa; the subterminal band excurved to near termen at vein 6, then bent inwards to join the postmedial band at vein 4, then to termen above tornus; or the white markings more or less reduced. Hind wing scarlet; a large subterminal black spot from costa to vein 4, and smaller spots on vein 2 and above tornus; cilia yellowish. Underside of fore wing with the basal area suffused with scarlet except on costa; hind wing with the upper part of cell and apical area suffused with white; an antemedial black bar from costa and medial spot.

Hab. SIBERIA; TIBET, Issyk-Kul, 1 ♂. *Exp.* 46 millim.

2062. *Arctia villica*.

Bombyx villica, Linn. Syst. Nat. i. p. 501 (1758); Esp. Schmett. iii. p. 185, pl. 35; Hübn. Eur. Schmett. ii. f. 136; Godt. Léop. Fr. iv. p. 336, pl. 35. f. 1; Steph. Ill. Brit. Ent., Haust. ii. p. 71; Oberth. Ét. Ent. xx. pls. xvi.–xvii.; Staud. Cat. p. 57; Kirby, Cat. Het. p. 259.

Bombyx vidua, Poda, Mus. Græc. p. 88 (1761).

Chelonia villica, var. *angelica*, Boisd. Ind. Meth. p. 42 (1829).

Arctia domiduca, Meig. Eur. Schmett. iii. p. 267, pl. 123. f. 12 (1830).

Bombyx konevkaui, Freyer, Neue Beitr. i. p. 61, pl. 33. ff. 1, 2 (1831); Bell, Ann. Soc. Ent. Fr. (3) viii. p. 686, pl. 12. f. 5.

Bombyx angelica, Geyer, Eur. Schmett. ii. ff. 326, 327 (1841).

Euprepia villica, var. *sicula*, Zell. Isis, 1847, p. 433.

Arctia villica, var. *fulminans*, Staud. Cat. p. 57 (1871).

Arctia villica, var. *confluens*, Rom. Mém. i. p. 87, pl. 4. f. 9 (1884).

Head and thorax black; tegulæ with triangular white patches; some crimson behind the eyes; pectus mostly crimson; coxæ mostly and femora above crimson; abdomen scarlet, orange-yellow towards base of dorsum; dorsal and lateral series of black points and sub-lateral stripes. Fore wing black, with triangular white patch at base in and below cell; antemedial and medial rounded spots in and below cell; a quadrate postmedial patch below costa, sometimes with one or two points beyond it, and a somewhat triangular patch from below vein 4 almost to termen above tornus; a quadrate subterminal spot on vein 5. Hind wing orange-yellow, with antemedial black spots on costa, median nervure, and vein 1, the two former sometimes conjoined; spots at angles of cell; a subterminal band from costa to vein 4, more or less strongly confluent with spots on termen at apex and middle; subterminal rounded spots on vein 2 and on vein 1 nearer termen. Underside of fore wing with scarlet postmedial spot on costa, or the apical part of costa scarlet; hind wing with the costal and more or less of terminal areas scarlet.

Ab. 1. *angelica*. The white markings replaced by sulphur-yellow.—France, Spain, Greece.

Ab. 2. *coneucai*. Fore wing with the spots more or less conjoined into bands.—Italy, Spain, Persia.

Ab. 3. Fore wing with the markings more or less conjoined longitudinally.

Ab. 4. Fore wing yellow, with the costa, termen, an apical patch, three spots below costa and one at lower angle of cell black; hind wing with some black on termen only.

Ab. 5. Hind wing more or less suffused with brown, sometimes wholly so except basal inner area.

Ab. 6. *fulminans*. Hind wing scarlet.—Syria.

Hab. EUROPE except extreme north, Germany, Zeller Coll., Switzerland, Frey Coll., Corsica (*Yerbury*), Greece (*Merlin*); ASIA MINOR, Syracuse, Zeller Coll.; ARMENIA. *Exp.*, ♂ 66, ♀ 70 millim.

Larva. Meyr. Brit. Lep. p. 42; Barrett, Lep. Brit. p. 272, pl. 73. f. 1.

Black; hairs dark brown; spiracles sometimes white; head deep red. Food-plants: *Myosotis*, *Plantago*, *Rumex*, *Ulex*, etc. 8–5.

Genus METACRIAS.

Metacrias, Meyr. P. Linn. Soc. N. S. W. (2) i. p. 749 (1886) ... Type. *erichrysa*.

♂. Proboscis aborted; palpi minute, buried in long hair which clothes the head, thorax, and abdomen; antennæ bipectinate with moderate branches; fore tibiæ with slight curved claw at extremity on inner side; hind tibiæ with one pair of spurs. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free, the costa slightly lobed near base. Hind wing with veins 3 and 5 from close to angle of cell; 6, 7 from upper angle; 8 from before middle of cell.

- A. Fore wing with scarlet streak below basal part of costa... *huttoni*.
 B. Fore wing without scarlet streak below costa.
 a. Hind wing with the terminal area crimson *strategica*.
 b. Hind wing with the terminal area orange..... *erichrysa*.

2063. *Metacrias huttoni*.

Phaos huttonii, Butl. Cist. Ent. ii. p. 487 (1879); Hudson, New Zealand Moths & Butterflies, p. 5, pl. 4. f. 6; Kirby, Cat. Het. p. 263.

♂. Black: head, thorax, and abdomen with some grey hair; tibiæ and tarsi mostly orange; abdomen with lateral and ventral orange



Fig. 204.—*Metacrias huttoni*, ♂. 1.

bands on terminal segments. Fore wing with slight yellowish sub-basal streak below costa, with a longer scarlet streak below it; a yellowish streak in end of cell; a streak in submedian fold from near base to near termen, sometimes with a subterminal spot separate from it; a series of short postmedial streaks between veins 2 and 7, with the streaks above veins 2 and 5 rather longer; a subterminal series of spots; cilia mostly yellow. Hind wing orange-yellow, with diffused blackish streaks from base below the cell and on vein 1; an oblique spot at lower angle of cell; a broad terminal band with a large spot partially joined to it near tornus, its inner edge minutely waved and with more or less developed orange points on medial part of termen. Underside of fore wing yellow, with large discoidal spot and subterminal and terminal series of spots.

♀. Apterous.

Hab. N. ZEALAND, Lake Wakatipu (*Hutton*), 2 ♂ type. *Exp.* 34 millim.

*2064. *Metacrias strategica*.

Metacrias strategica, Hudson, Entom. xxii. p. 53 (1889); id. New Zealand Moths & Butterflies, p. 4, pl. 4. f. 4; Kirby, Cat. Het. p. 263.

♂. Black; vertex of head, tegulæ, edges of patagia, and sides of abdomen yellowish. Fore wing with yellow fasciæ on costa, through the cell, in submedian fold and on inner margin, the 2nd and 3rd not quite reaching termen; postmedial and subterminal series of short streaks between veins 2 and 7; cilia yellowish. Hind wing with the basal half orange-yellow, the terminal half crimson; a broad subterminal black band from costa to submedian fold and a large spot near tornus.

Hab. N. ZEALAND, S. Canterbury, Richardson Range. *Exp.* 32 millim. This species is unknown to me.

*2065. *Metacrias erichrysa*.

Metacrias erichrysa, Meyr. P. Linn. Soc. N. S. W. (2) i. p. 749 (1890); Hudson, New Zealand Moths & Butterflies, p. 4, pl. 4. f. 5; Kirby, Cat. Het. p. 263.

♂. Head, thorax, and abdomen black, mixed with grey hair; antennæ with some white scales above; legs orange with some black markings; abdomen with lateral series of orange spots, becoming ventral bands on terminal segments; wings orange-yellow. Fore wing with broad black fasciæ on the veins; a fascia on costal area from before middle to apex; a large spot on discocellulars; the fasciæ on veins from lower angle of cell narrow to the curved post-medial series of conjoined spots; the fascia above inner margin very broad. Hind wing with large discoidal lunule; a subterminal band formed by a wedge-shaped patch from costa to vein 4, where it is conjoined to another wedge-shaped patch extending to submedian fold, and a triangular spot on vein 1; a dentate terminal line from apex to vein 4, conjoined to the subterminal band at apex.

♀. Wings aborted, minute; the legs short, stout and well-developed; uniform whitish ochreous.

Hab. N. ZEALAND, Mount Arthur, 4000 feet, type† in Coll. Meyrick. *Exp.* 38 millim.

Larva. Black; the hairs clothing the segmental incisions brownish ochreous. Food-plant, *Senecio bellidioides*, January.

Cocoon rather slight.

Genus **TERACOTONA**.

Type.

Macronyx, Feld. Reis. Nov. p. 6 (1874); *nec* Swains. Aves, 1837. *submacula*.
Teracotona, Butl. P. Z. S. 1878, p. 382 *rhodophæa*.

Proboscis aborted, minute; palpi porrect to just beyond the frons; antennæ of male ciliated; fore tibiæ short, with large curved claw on inner side and short claw on outer; hind tibiæ with the medial spurs absent; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form a long areole; 11 free. Hind wing with vein 3 from close to angle of cell; 5 from well above angle; 6, 7 from upper angle; 8 from middle of cell.

A. Abdomen scarlet above, whitish beneath.

a. Fore wing not clouded with fuscous *euprepia*.
 b. Fore wing clouded with fuscous *rhodophæa*.

B. Abdomen orange above and below, tinged with scarlet at base.

a. Fore wing without subterminal black spots *submacula*.
 b. Fore wing with subterminal black spots above vein 5 and towards inner margin *subterminata*.

2066. *Teracotona euprepia*. (Plate L. fig. 13.)*Teracotona euprepia*, Hmps. Ann. S. Afr. Mus. ii. p. 58 (1900).

♂. Head and thorax ochreous white; palpi crimson, black at tips; frons with crimson bar above; antennæ black, crimson towards base; edges of tegulæ and patagia crimson; pectus and femora crimson; tibiæ black, fringed with ochreous hair; tarsi black; abdomen orange, clothed with crimson hair at base, subdorsal, lateral, and sublateral series of black spots, the ventral surface ochreous white. Fore wing pale ochreous with a flesh tint; the veins and streaks in cell and submedian fold black; a strongly curved black antemedial line; a discoidal lunule; the postmedial line developed into a small spot below costa, angled at vein 5, then strongly incurved; a fine black terminal line; cilia orange. Hind wing crimson, with slight black discoidal lunule and some points on apical half of termen; cilia orange.

Hab. MASHONALAND, Salisbury (*Marshall*), 3 ♂ type. *Exp.* 54 millim.

2067. *Teracotona rhodophæa*.*Aloa rhodophæa*, Wlk. xxxi. 302 (1864); Kirby, Cat. Het. p. 243.

Head and thorax whitish, more or less tinged with brown; palpi scarlet above, the 3rd joint black; neck with scarlet ring; patagia

Fig. 205.—*Teracotona rhodophæa*, ♂. $\frac{1}{1}$.

with black points and edged with scarlet above; a scarlet stripe below wings; the femora scarlet above, the tibiæ and tarsi streaked with brown; abdomen scarlet above, grey-white below, with subdorsal, lateral, and sublateral series of black spots. Fore wing white, more or less completely suffused and irrorated with dark brown, but always having a patch of white below base of cell; the antemedial brown line strongly but obtusely angled on median nervure; a medial line bent outwards between discal and submedian folds and diffused outwards; a black discoidal lunule; the postmedial line strongly bent outwards between veins 5 and 3, and followed by a diffused crenulate line; dentate subterminal spots between veins 8 and 6 and 5 and 2; the veins, submedian fold, and cilia brown. Hind wing scarlet, with black discoidal lunule; the cilia yellow at tips.

Hab. BR. E. AFRICA, Sabaki Valley (*Gregory*), 2 ♂, 1 ♀, Athi-ya-Mawe (*Betton*), 1 ♂; N'GAMILAND (*Anderson*), 1 ♀ type. *Exp.* 44–45 millim.

2068. *Teracotona submacula*.

Virbia submacula, Wlk. ii. 472 (1855); Kirby, Cat. Het. p. 244.

Spilosoma obscurum, Wlk. vii. 1696 (1856).

Cynia natalica, Möschl. Stett. ent. Zeit. xxxiii. p. 356 (1872); Kirby, Cat. Het. p. 908.

Estigmene strigosa, Möschl. Stett. ent. Zeit. xxxiii. p. 355 (1872); Kirby, Cat. Het. p. 277.

Macronyx debilis, Feld. Reis. Nov. pl. 100. f. 22 (1874); Kirby, Cat. Het. p. 243.

Teracotona roseata, Butl. P. Z. S. 1878, p. 382; Kirby, Cat. Het. p. 244.

♂. Head and thorax brown and grey; palpi scarlet at base, black at tips; shoulders and patagia with black points; femora scarlet above; the tarsi ringed with black; abdomen orange, tinged with scarlet at base, a subdorsal series of black patches and lateral and sublateral series of points. Fore wing whitish, strongly irrorated with brown; a more or less developed black discoidal spot. Hind wing white, suffused with brown; a black discoidal spot; the inner area suffused with scarlet. Underside of fore wing with scarlet fascia in cell.

♀. Hind wing wholly suffused with scarlet.

Ab. 1. *obscura*. Fore wing with more or less developed medial and postmedial diffused brown bands.

Hab. DAMARALAND; NATAL (*Gueinzus*, *Gooch*), 6 ♂, 1 ♀, type and types *obscurum* and *roseata*; C. COLONY, Grahamstown. *Exp.*, ♂ 48, ♀ 58 millim.

2069. *Teracotona subterminata*, n. sp. (Plate L. fig. 16.)

♀. Head and thorax grey-brown; palpi with band on 2nd joint, and the 3rd joint black; antennæ black; neck with scarlet ring; shoulders and patagia with black spots; femora crimson above and with black bands at extremities; abdomen orange, scarlet towards base, with subdorsal series of black patches and lateral series of spots. Fore wing reddish brown, thickly striated with dark brown; traces of a dark postmedial line excurved between veins 5 and 3; a pale-edged subterminal black spot above vein 5, and points below vein 2 and on each side of vein 1. Hind wing scarlet, more orange towards termen; a black discoidal lunule, and subterminal spots on each side of veins 5, 2, and 1. Underside with crimson suffusion in cell of fore wing and beyond its upper angle and on costal area of hind wing.

♂. Head, thorax, and fore wing darker, the last with the subterminal spots almost obsolete; hind wing white, the costal area slightly tinged with crimson.

Hab. BR. E. AFRICA, Athi-ya-Mawe (*Betton*), 1 ♀ type, Eb. Urru, 2 ♂. *Exp.* 14 millim.

Genus **CARCINARCTIA**, nov.Type, *C. metamelæna*.

Proboscis absent; palpi porrect to just beyond the frons; antennæ of male bipectinate with rather long branches; head, thorax, and abdomen clothed with long woolly hair; fore tibiæ short with curved claw at extremity on inner side and short claw on outer, mid and hind tibiæ with the spurs moderate. Fore wing with vein 3 from before angle of cell; 5 from just above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from above angle; 6, 7 shortly stalked; 8 from before middle of cell.

2070. *Carcinarctia metamelæna*, n. sp.

♂. Head and thorax deep red-brown; palpi black; femora scarlet above, the tibiæ and tarsi tinged with fuscous; abdomen orange, tinged with scarlet towards base, subdorsal series of black

Fig. 206.—*Carcinarctia metamelæna*, ♂. 1.

bands and lateral series of spots. Fore wing red-brown irrorated with black; obscure antemedial and medial black lines angled on median nervure; a diffused discoidal lunule; a postmedial line excurved between veins 5 and 3, and followed by a curved line with black spots on it above veins 5 and 1. Hind wing black; the base pale; the inner area with some scarlet hair; short scarlet streaks on veins 4–1; the terminal orange-red band with rather irregular inner edge. Underside of fore wing with the disk suffused with crimson.

Hab. BR. E. AFRICA, Lari (*Betton*), 1 ♂ type, Kikuyu, Nairobi (*Crawshay*), 1 ♂. *Exp.* 40 millim.

Genus **CYMBALOPHORA**.

Type.

Tympanophora, Laboulb. Ann. Soc. Ent. Fr. (4) iv. p. 704 (1864),*nec* White, Orth. (1841)*putida*.*Cymbalophora*, Ramb. Cat. Lép. And. ii. p. 231 (1866)*putida*.

Proboscis aborted, minute; palpi porrect, extending as far as the large frontal tuft; head and thorax clothed with woolly hair; tibiæ smoothly scaled; fore tibiæ with long curved claw on inner side and short claw on outer; abdomen smoothly scaled at base. Fore wing with vein 3 from before angle of cell; 4, 5 from angle; 6 from below upper angle; 9 from 10 anastomosing with 8 to form the areole. Hind wing with veins 3, 4, 5 from angle of cell; 6, 7 from upper angle; 8 from before middle of cell.

SECT. I. Antennæ of male bipectinate with moderate branches; pectus without tympanic vesicle.

2071. *Cymbalophora diva*.

Ocnogyna diva, Staud. Stett. ent. Zeit. xlviii. p. 84 (1887); Kirby, Cat. Het. pp. 273, 913.

Arctia haberhaueri, Alph. Stett. ent. Zeit. xlix. p. 67 (1888); Grumm-Grschm. Rom. Mém. iv. pp. 536, pl. 20. f. 2.

Pale brownish buff; lower part of frons black-brown. Fore wing with oblique antemedial black bar from just below costa to just below cell and a spot above vein 1; a medial spot on vein 1



Fig. 207.—*Cymbalophora diva*, ♂. 1.

and sometimes spots on subcostal and median nervures; a large discoidal spot sometimes with spot above it below costa; postmedial conjoined spots above and below vein 6 and on veins 2 and 1. Hind wing rather paler.

Hab. C. ASIA, Samarkand (*Haberhauer*), 2 ♂. *Exp.* 42–46 millim.

SECT. II. Antennæ of male minutely serrate and ciliated; pectus behind with a large ear-shaped tympanic vesicle.

A. Tegulæ pale.

a. Patagia pale with black streak..... *rivularis*.

b. Patagia black, edged with whitish above. *pudica*.

B. Tegulæ and patagia black *oertzeni*.

2072. *Cymbalophora rivularis*.

Chelonia rivularis, Mén. Cat. Rais. p. 263 (1832); Herr.-Schäff. Eur. Schmett. vi. p. 52, f. 160; Mill. Ann. Soc. Linn. Lyon. xvii. p. 48, pl. 97. ff. 10–13; Staud. Cat. p. 58; Kirby, Cat. Het. p. 272.

♂. Head, thorax, and abdomen brownish ochreous; palpi and streaks on patagia and thorax black; tibiæ and tarsi spotted with black; abdomen with obscure dorsal blackish bands and ventral series of spots. Fore wing white, the costa and inner margin tinged with ochreous; short black streaks from base below costa and cell; an oblique antemedial line from below costa to just below cell, where it is met or nearly met by an oblique mark from middle of cell forming a wide V; a short oblique antemedial line on inner area, another below middle of costa, one at lower angle of cell from vein 5 to 2 with an oblique spot above it below costa and a short

oblique line on middle of inner area; an oblique spot below costa towards apex, and three wedge-shaped subterminal spots on veins 5, 3, and 1; a somewhat V-shaped spot below apex, and a triangular terminal spot between veins 3, 4. Hind wing ochreous white.

♀. Wings aborted.

Hab. CAUCASUS, 4 ♂; TRANSCAUCASIA, Schuscha, 1 ♀; ARMENIA.
Exp. 34–42 millim.

2073. *Cymbalophora pudica*.

Bombyx pudica, Esp. Schmett. iii. p. 177, pl. 33. f. 1 (1784); Hübn. Beitr. Schmett. ii. (4) p. 87, pl. 1 G; id. Eur. Schmett. ii. ff. 134, 269; Herr.-Schäff. Schmett. Eur. ii. p. 141, ff. 116, 117; Godt. Léop. Fr. iv. p. 313, pl. 32. ff. 1, 2; Staud. Cat. p. 58; Kirby, Cat. Het. p. 271.
Noctua tessellata, De Vill. Ent. Linn. ii. p. 274, pl. 5. f. 18 (1789).

Head and thorax black; tegulæ, shoulders, upper edge of patagia, and sides of thorax pinkish white; femora orange above; abdomen crimson with dorsal black bands or spots, the ventral surface black. Fore wing black, with pinkish-white fascia from base of costa, where it encloses one or two black points, above submedian fold to tornus; a fascia on inner margin; the antemedial band oblique from costa to the fascia, where it is acutely angled and retracted; a medial slightly sinuous band, sometimes interrupted; a postmedial band oblique from costa to vein 4, where it is angled; the subterminal



Fig. 208.—*Cymbalophora pudica*, ♂. 1.

band arising from costa before apex running inwards to the postmedial band at vein 6, then outwards to termen, then inwards to the postmedial band at vein 4, outwards to termen at vein 2 and inwards to the submedian fascia; cilia pinkish white. Hind wing pinkish white, the inner area more strongly tinged with crimson; blackish spots sometimes present on discocellulars, and often four subterminal spots and others on termen above veins 7 and 3.

Hab. S. EUROPE, Spain, Frey Coll., Dalmatia, Zeller Coll.; N. AFRICA.
Exp. 42 millim.

2074. *Cymbalophora oertzeni*.

Arctia oertzeni, Led. Verh. zool.-bot. Ges. Wien, v. p. 201, pl. 2. ff. 8, 9 (1855); Staud. Cat. p. 58; Kirby, Cat. Het. p. 272.

♂. Head and thorax black; antennæ ochreous; neck with orange ring; coxæ and femora above with some fulvous hair; abdomen crimson above with dorsal series of black spots, the anal

tuft orange, the ventral surface black, with lateral crimson spots and ventral bands. Fore wing flesh-white; a black patch at base of inner area; an antemedial triangular patch from costa to below cell and a V-shaped patch from submedian fold to inner margin; an irregular patch from middle of costa across end of cell, then narrowing and oblique to submedian fold; a postmedial patch from costa to vein 5, and oblique band from vein 3 to inner margin; a large apical spot; a triangular patch on middle of termen and a spot above tornus. Hind wing yellowish white suffused in part with pink; a subterminal black spot on costa, and usually spots on veins 2 and 1 and on termen at apex and vein 4.

Hab. SYRIA, Beyrout (*Jessup*), 3 ♂. *Exp.* 48 millim.

Genus ECTYPIA.

Ectypia, Clem. Proc. Acad. Sci. Philad. 1860, p. 529 *bivittata*. Type.

Proboscis aborted; palpi porrect, hardly reaching beyond the frons; antennæ of male bipectinate, of female serrate; head and thorax almost smoothly scaled; tibiæ with the spurs short. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with vein 3 from close to angle of cell; 4, 5 from angle; 6, 7 from upper angle; 8 from middle of cell.

- A. Abdomen with the dorsum yellow *thona*.
 B. Abdomen dorsally white with subdorsal yellow stripes *bivittata*.

*2075. *Ectypia?* *thona*. (Plate L. fig. 8.)

Spilosoma thona, Streck. Suppl. ii. p. 4 (1899).

♂. White, with a slight pinkish tinge; antennæ black, the shaft white above; patagia with black stripes; abdomen dorsally orange-yellow. Fore wing with black streak on median nervure and vein 4 from before middle to termen, but interrupted in places; a streak on inner margin from before middle to near tornus; a streak on terminal part of vein 1; some points on costa and termen; a point at upper angle of cell and one beyond the cell; slight streaks on veins 6 and 7 towards apex.

Hab. U.S.A. *Exp.* 42 millim. This species is unknown to me, figured from a drawing from type by H. Strecker.

2076. *Ectypia bivittata*.

Ectypia bivittata, Clem. Proc. Acad. Sci. Philad. 1860, p. 530; Kirby, Cat. Het. p. 235.

Spilosoma nigroflava, Graef, Ent. Am. iii. p. 43 (1887); Kirby, Cat. Het. p. 227.

♀. White; palpi black; sides of frons yellow; antennæ with the branches black; tegulæ with black points; patagia with blue-black stripes with yellow lines on their outer side; fore coxæ yellow; fore femora and the tibiæ and tarsi black above; abdomen with dorsal and lateral series of black spots and some sublateral

spots; broad orange subdorsal stripes except on terminal segments. Fore wing with black point at base and subbasal point below costa; a short antemedial streak below cell; an oblique medial series of



Fig. 209.—*Ectypia bivittata*, ♀. 1.

spots, those on costa and inner margin short streaks and the spot at origin of vein 2 \blacktriangle -shaped; postmedial spots on veins 4, 5; a sub-terminal series of six short streaks on the veins.

Hab. U.S.A., Texas, 1 ♀, Grote Coll. *Exp.* 46 millim.

Genus **PTEROODES.**

Pteroodes, Butl. Trans. Ent. Soc. 1877, p. 376 *Type.* *longipennis*.

Proboscis fully developed; palpi upturned, slender, the 2nd joint reaching vertex of head, the 3rd long, porrect; antennæ of male ciliated; build slender; tibiæ with the spurs short. Fore wing long and rather narrow; vein 3 from near angle of cell; 4, 5 from angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the long areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 from just above angle; 6, 7 from upper angle; 8 from beyond middle of cell.

2077. *Pteroodes longipennis*.

Lithosia longipennis, Wlk. ii. 510 (1854); Druce, Biol. Centr.-Am., *Het.* i. p. 142; Kirby, Cat. *Het.* p. 380.



Fig. 210.—*Pteroodes longipennis*, ♂. 1.

♂. Orange-yellow; palpi towards extremity and legs fuscous brown. Fore wing with the costa narrowly fuscous; the termen narrowly fuscous, widening somewhat towards apex.

Hab. MEXICO, 1 ♂ type. *Exp.* 50 millim.

Genus **HIERA**.

Hiera, Druce, Biol. Centr.-Am., Het. i. p. 142 (1885)..... Type. *gyge*.

Proboscis fully developed; palpi short, upturned; antennæ of male with long bristles and cilia; build slender; tibiæ with the spurs moderate; abdomen of male with the claspers very long. Fore wing rather narrow; vein 3 from well before angle of cell; 5 from just above angle; 6 from areole; 9 from 10 anastomosing with 8 to form a short areole; 11 curved and somewhat approximated to 12. Hind wing with vein 3 from before angle of cell; 4, 5 from angle; 6, 7 stalked; 8 from before middle of cell.

2078. *Hiera gyge*.

Hiera gyge, Druce, Biol. Centr.-Am., Het. i. p. 142, pl. 14. f. 10 (1885); Kirby, Cat. Het. p. 399.

♂. Head, thorax, and abdomen fulvous orange; antennæ black; tibiæ and tarsi brownish. Fore wing orange; a narrow black



Fig. 211.—*Hiera gyge*, ♂. 1.

fascia on costa; a broad fuscous-brown terminal band, its inner edge angled at vein 5. Hind wing orange, with terminal fuscous black band narrowing to tornus.

Hab. PANAMÁ, Chiriqui (*Champion*), 1 ♂ type, Godman-Salvin Coll. *Exp.* 38 millim.

Genus **ATOLMIS**.

Atolmis, Hübn. Verz. p. 164 (1827) Type. *rubricollis*.

Proboscis fully developed; palpi upturned, not reaching vertex of head; tibiæ with the spurs moderate; abdomen clothed with rough hair, the claspers of male large. Fore wing rather narrow; vein 3 from close to angle of cell; 4, 5 stalked; 9 from 10 anastomosing with 8 to form the areole, 6 from the areole; 11 free. Hind wing with vein 3 from angle of cell; 4, 5 on a long stalk; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. Antennæ of male bipectinate with moderate branches.

2079. *Atolmis unifascia*, n. sp.

♂. Head black, the palpi in front and vertex of head orange; tegulæ and patagia orange and white; thorax black; pectus and legs orange, some black below the wings, fore tibiæ and tarsi black; abdomen orange, whitish towards base. Fore wing silvery white,

irrorated with fuscous except on inner area ; the costal edge orange,



Fig. 212.—*Atolmis unifascia*, ♂. ½.

black towards base ; a somewhat diffused blackish fascia below the cell hardly reaching termen. Hind wing yellowish white.

Hab. SUMBAWA (*Doherty*), 1 ♂ type. *Exp.* 34 millim.

SECT. II. Antennæ of male ciliated.

2080. *Atolmis rubricollis*.

Noctua rubricollis, Linn. Syst. Nat. i. p. 511 (1758) ; Clerck, Icones, pl. ii. f. 3 ; Esp. Schmett. iv. p. 90, pl. 92. f. 1 ; Hübn. Eur. Schmett. ii. f. 94 ; Godt. Léop. Fr. v. p. 22, pl. 42. f. 3 ; Steph. Ill. Brit. Ent., Haust. ii. p. 98 ; Staud. Cat. p. 55 ; Kirby, Cat. Het. p. 314.

Black-brown with a purple gloss ; tegulæ scarlet or orange ;



Fig. 213.—*Atolmis rubricollis*, ♂. ½.

abdomen with the last three segments orange above, the ventral surface orange except first two segments.

Ab. 1. Hind wing pale grey.

Hab. EUROPE, except Arctic region, Germany Zeller & Frey Colls., Sicily, Dalmatia, Bithynia ; ALTAI ; AMUR. *Exp.*, ♂ 32, ♀ 36 millim.

Larva. Meyr. Brit. Lep. p. 29 ; Barrett, Lep. Brit. ii. p. 230, pl. 68. f. 2.

Grey freckled with greenish yellow ; hairs brownish ; dorsal line fine, whitish, grey-edged ; subdorsal line black, interrupted ; head blackish. Food-plant, lichens. 7–10.

Genus BAROA.

Baroa, Moore, P. Z. S. 1878, p. 28 Type. *punctivaga*.

Proboscis fully developed ; palpi upturned, reaching vertex of head, the 2nd joint roughly scaled, the 3rd moderate, naked ; antennæ of male fasciculate ; tibiæ roughly scaled, the spurs long ; retinaculum of male from below median

nervure. Fore wing with veins 3 and 5 from near angle of cell; 6 from below upper angle; 9 from 10 anastomosing with 8 to form an areole of moderate length and breadth, 7 from the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell (abnormally stalked); 5 from above angle; 6, 7 from upper angle; 8 from middle of cell.

- A. Fore wing with medial series of black points *punctivaga*.
 B. Fore wing with postmedial series of points..... *vatala*.
 C. Fore wing without series of points *soricina*.

2081. *Baroa punctivaga*. (Plate L. fig. 2.)

Cyenia punctivaga, Wlk. iii. 682 (1855); Kirby, Cat. Het. p. 304.

♂. Brown suffused with deep fuscous; palpi yellow, the 3rd joint black; tegulæ, patagia, and prothorax with black points. Fore wing with black point at base below costa; subbasal black points below costa and cell, with a short streak beyond them in cell; an excurved antemedial series of four points between costa and submedian fold; a discoidal point; a series of points in interspaces arising from middle of cell, very strongly excurved beyond cell, then oblique to inner margin; the veins of terminal half with pale streaks.

♀. Abdomen with the extremity yellow; fore wing browner.

Hab. JAVA (*Horsfield*), 3 ♂, 3 ♀, type. *Exp.* 32–38 millim.

2082. *Baroa vatala*.

Baroa vatala, Swinh. A. M. N. H. (6) xiv. p. 436; id. Trans. Ent. Soc. 1895, p. 25, pl. 1. f. 18; Hmps. Moths Ind. iv. p. 493.

Ochreous white tinged with brown; palpi yellow, the 3rd joint black; tegulæ, shoulders, patagia, and prothorax with black points; abdomen with the terminal segments yellow. Fore wing with black point at base; subbasal black points below costa and cell, with a point beyond them in cell; a curved antemedial series of four points between costa and submedian fold; a discoidal point; a postmedial series of points in the interspaces strongly excurved beyond cell; the veins with pale streaks. Hind wing with curved postmedial series of fuscous points in the interspaces; the veins pale towards termen.



Fig. 214.—*Baroa vatala*, ♂. 1.
 (From Moths Ind. vol. iv.)

Hab. HONG KONG (*J. J. Walker*), 1 ♂; SIKHIM, 1 ♂; BHUTÁN (*Dudgeon*), 1 ♂; ASSAM, KHÁSI, 1 ♂, 1 ♀, type. *Exp.* 36 millim.

*2083. *Baroa soricina*.

Emydia soricina, Snell. Tijds. v. Ent. xxii. p. 82, pl. 7. ff. 3, 3a (1879); Kirby, Cat. Het. p. 344.

♀. Head and thorax yellow; 3rd joint of palpi and antennæ,

except at base, black; frons, vertex of head, tegulæ, patagia, meso- and metathorax with black spots; pectus and legs black, the coxæ yellow; abdomen black. Fore wing brownish black; the veins streaked with greyish towards base; a yellow point at base. Hind wing fuscous black.

Hab. CELEBES, Bonthain, type † ♀ in Coll. Snellen. *Exp.* 34 millim.

Genus UTETHEISA.

	Type.
<i>Utetheisa</i> , Hübn. Verz. p. 168 (1827)	<i>bella</i> .
<i>Deiopeia</i> , Steph. Ill. Brit. Ent., Haust. ii. p. 92 (1829)	<i>pulchella</i> .

Proboscis fully developed; palpi upturned, not reaching vertex of head; antennæ of male usually ciliated; tibiæ with the spurs moderate. Fore wing long and narrow; vein 2 from just beyond middle of cell, oblique; 3 from well before angle; 5 from well above angle; 6 from well below upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from end of areole; 11 free. Hind wing with vein 2 from middle of cell; 3 from well before angle; 5 from well above angle; 7 from just before upper angle; 8 from middle of cell.

SECT. I. Hind wing of male with a fold on inner area above containing a tuft of long hair.

A. Fore wing with crimson spots.

a. Fore wing with the patch in end of cell pure white on upper and undersides, and extending to lower angle of cell *elata*.

b. Fore wing with the patch in end of cell yellowish white on upperside, crimson on underside, and not extending to lower angle of cell *cruentata*.

B. Fore wing without crimson spots *lactea*.

2084. *Utetheisa elata*.

Noctua elata, Fabr. Ent. Syst. p. 440 (1798).

Utetheisa venusta, Hübn. Zutr. Ex. Schmett. iii. p. 29, ff. 521, 522 (1827), *nec* Dalm.; Hampn. Moths Ind. ii. p. 55.

Euchelia formosa, Boisd. Faune Madag. p. 85 (1833); Kirby, Cat. Het. p. 346.

Deiopeia diva, Mab. Ann. Soc. Ent. Fr. (5) ix. p. 305 (1879); Kirby, Cat. Het. p. 347.



Fig. 215.—*Utetheisa elata*, ♂. 1.

Head and thorax white, rarely tinged with yellow; palpi, except 1st joint and extremity of 2nd, antennæ, spots on frons, vertex of head, tegulæ, patagia, pro- meso- and metathorax black; crimson spots on sides of tegulæ and shoulders; pectus spotted with black,

legs striped with black; abdomen white in female, blackish above in male, with sublateral series of black spots. Fore wing black; subbasal black spots below costa and cell, followed by quadrate crimson patches on costa and inner margin; an antemedial black line from costa to median nervure, and spots below the cell and above and below vein 1, the two former displaced outwards and followed by an oblique series of three crimson spots below costa and cell and above vein 1, all these markings being defined by white; a quadrate white patch in end of cell extending to lower angle, with two crimson spots above it on costa, sometimes a slight crimson streak on it, and below it two conjoined crimson spots on median nervure and at lower angle of cell, with a white patch below them, above a crimson spot above vein 1; a subterminal series of four irregular crimson spots defined by white, the one below costa further from base, and the one below middle formed by two conjoined spots. Hind wing semihyaline white, with terminal black band broad at apex, narrowing to tornus, with irregular inner edge indented at middle.

Ab. 1. *diva*. Tegulæ and shoulders without crimson spots; fore wing with the crimson spots on inner and terminal areas much reduced; hind wing with some black suffusion in base of cell and on inner area; the terminal band very broad and extending to discocellulars.

Hab. MADAGASCAR (*Pfeiffer*), 2 ♀; MAURITIUS, 2 ♂, 6 ♀; JOHANNA I. (*Bewsher*), 1 ♀. *Exp.*, ♂ 44, ♀ 54 millim. Type ♂ ♀ *diva* in Coll. Mabilie; type in Mus. Copenhagen.

The localities Sikhim and Sumatra for this species are erroneous.

2085. *Utetheisa cruentata*.

Deiopeia cruentata, Butl. Ill. Het. B. M. v. p. 38, pl. 86. f. 10 (1881); Hmps. Moths Ind. ii. p. 55; Kirby, Cat. Het. p. 347.

Head and thorax white tinged with orange; antennæ black; palpi, frons, vertex of head, tegulæ, patagia, and pro- meso- and metathorax with black spots; tegulæ at sides and shoulders with crimson spots; pectus spotted with black; legs striped with black; abdomen white, sometimes dorsally tinged with black. Fore wing fuscous black, with crimson spots defined by yellowish and pinkish white; three subdorsal black spots followed by crimson spots on costa and above vein 1; two antemedial black spots below costa, and one above inner margin; crimson antemedial spots on costa, below cell, and above vein 1, the last with another beyond it; a pinkish-white band across end of cell, not extending to lower angle, with a crimson spot above it on costa and one below it; postmedial crimson spots on costa, at lower angle of cell, and above vein 1, connected by an irregular whitish band; a crimson spot below costa before apex, and a subterminal series of spots on an irregular whitish band; cilia intersected with whitish. Hind wing semihyaline white, with black terminal band very broad at costa, narrowing to a point at vein 1, and with very irregular inner edge

indented above vein 3; a discoidal point sometimes present. Underside of fore wing with the markings crimson.

Hab. MAURITIUS, 4 ♂, 3 ♀, type. *Exp.* 44–48 millim.

The locality Sikhim for this species is erroneous.

2086. *Utetheisa lactea*. (Plate L. fig. 6.)

Deiopeia lactea, Butl. Rep. Zool. Coll. 'Alert,' p. 577 (1884); Kirby, Cat. Het. p. 345.

Head and thorax ochreous white; abdomen pure white. Fore wing ochreous white; two black points at base of costa, one at base of cell, an antemedial point above vein 1, and two discoidal points sometimes present; some terminal points on apical half; the underside with very irregular subterminal black band from below costa to above inner margin, expanding into a patch at middle, and sometimes interrupted below vein 4. Hind wing pure white, with black apical patch, followed by two points above and below vein 3, and with a small triangular white spot at apex.

Hab. PROVIDENCE I. (N. of Madagascar), 1 ♂, 1 ♀ type, Coll. H.M.S. 'Alert.' *Exp.* 38 millim.

SECT. II. Hind wing of male without fold and tuft.

A. Antennæ of male bipectinate, with very short branches.

2087. *Utetheisa antennata*.

Deiopeia antennata, Swinh. A. M. N. H. (6) xii. p. 215 (1893); Hmps. Moths Ind. ii. p. 55.



Fig. 216.—*Utetheisa antennata*, ♂. 1.

♂. Head and thorax yellowish white; palpi at tips, antennæ, spots on vertex of head, tegulæ, patagia, pro-meso- and meta-thorax black; legs striped with black; abdomen white, the anal tuft tinged with ochreous. Fore wing yellowish white; a subbasal black spot on costa followed by crimson spots on costa and above vein 1; an antemedial series of five black spots, angled below the cell, followed by crimson spots on costa and above vein 1; a curved medial series of black spots conjoined from costa to below cell, followed by crimson spots on costa, at origin of vein 2, and above vein 1; the postmedial black line strongly bent outwards in cell to discocellulars and below the cell broken up into spots, with

a crimson spot beyond it at origin of vein 3, and black spots above veins 3, 4, and 6, followed by two curved series of irregular marks conjoined into blotches; three black streaks below costa towards apex; a crimson subapical spot and a series of black spots on termen and cilia. Hind wing white, with terminal black band rather broad at apex, emitting a short streak above vein 5 and narrowing to a point at tornus.

Hab. NICOBARS, 1 ♂ type. *Exp.* 36 millim.

B. Antennæ of male ciliated or minutely serrate.

a. Hind wing white.

a¹. Fore wing not suffused with pink or fuscous *pulchella*.

b¹. Fore wing suffused with fuscous *semara*.

c¹. Fore wing suffused with pink *ornatrix*.

b. Hind wing pink *bella*.

c. Hind wing fuscous brown *galapagensis*.

2088. *Utetheisa pulchella*.

Tinea pulchella, Linn. Syst. Nat. i. p. 534 (1758); Sulz. Gesch. Ins. p. 162, pl. 23. f. 11; Steph. Ill. Brit. Ent., Haust. ii. p. 93; Moore, Lep. Ceyl. ii. p. 67, pl. 104. f. 5; Hmps. Moths Ind. ii. p. 55; Staud. Cat. p. 56; Kirby, Cat. Het. p. 346.

Noctua pulchra, Den. & Schiff. Wien. Verz. p. 68 (1776); Esp. Schmett. iv. p. 570, pl. 164. ff. 3-5; Godt. Léop. Fr. v. p. 23, pl. 42. f. 4; Curt. Brit. Ent. v. pl. 169.

Geometra lotrix, Cram. Pap. Exot. ii. pl. 109, E, F (1779).

? *Deiopeia lepidæ*, Rambur, Cat. Léop. And. ii. p. 226 (1866); Kirby, Cat. Het. p. 346.

Deiopeia pulchella, var. *candida*, Butl. Trans. Ent. Soc. 1877, p. 361.

Deiopeia thyter, Butl. Trans. Ent. Soc. 1877, p. 361; Kirby, Cat. Het. p. 346.

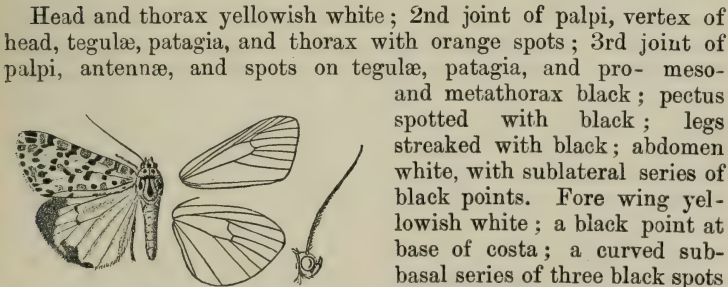


Fig. 217.—*Deiopeia pulchella*, ♂. 1.
(From Moths Ind. vol. ii.)

Head and thorax yellowish white; 2nd joint of palpi, vertex of head, tegulæ, patagia, and thorax with orange spots; 3rd joint of palpi, antennæ, and spots on tegulæ, patagia, and pro- meso- and metathorax black; pectus spotted with black; legs streaked with black; abdomen white, with sublateral series of black points. Fore wing yellowish white; a black point at base of costa; a curved subbasal series of three black spots followed by scarlet spots on costa and above vein 1; a curved antemedial series of five black spots followed by scarlet spots on costa, below cell, and above vein 1; a medial series of seven black points, the one in cell displaced outwards, and the pairs below costa and cell often conjoined, and followed by scarlet spots on costa and above veins 2 and 1, then by another series of seven black spots, two being displaced outwards on discocellulars, incurved below cell, followed by scarlet spots on costa and above veins 3 and 1, then by black spots above

veins 3, 4, 5, 6, the two lower further from base; a postmedial series of ten black spots bent outwards below vein 6, then oblique; a subterminal series of scarlet spots conjoined in places and bent outwards below costa; two obliquely-placed black spots from costa before apex, and a terminal series; cilia chequered black and white, except towards tornus. Hind wing white, usually with one or two black spots on discocellulars; two black spots on medial part of costa; an apical black-brown patch with rather irregular inner edge, followed by conjoined spots on termen to vein 1, developed at middle into a hamate patch. Underside of fore wing with irregular postmedial black patch from costa to submedian fold; hind wing with the apical patch broken up into spots.

Ab. 1. *candida*. Fore wing with the ground-colour pure white.

Ab. 2. *lotriæ*. Fore wing with the crimson spots of medial area more developed and conjoined.

Ab. 3. *thyter*. Fore wing with the black spots more or less obsolete.

Ab. 4. Fore wing with the black spots more developed and conjoined in places; hind wing with broad irregular terminal black band with more or less developed white spot on it at middle.—N. Hebrides, Solomon Is.

Ab. 5. Antennæ of male minutely serrate.—Keeling and Christmas Is., N. Guinea, Australia, and Pacific Groups.

Hab. EUROPE, Central, South, and East, Britain, France, Spain, Frey Coll., Italy, Zeller Coll., Malta, Greece (*Merlin*), 2 ♀, Turkey, Rhodes, Zeller Coll.; ASIA MINOR; ARMENIA; TANGIERS, Mogador (*Leach*), 1 ♂, 1 ♀; ST. VINCENT (*J. J. Walker*), 1 ♀; W. AFRICA, Ashanti, 1 ♂, 2 ♀, Niger R., Onitsha, 2 ♀, Congo (*Curror*), 3 ♀; SUAKIM (*Carpenter*), 1 ♀; SOKOTRA (*Balfour, Grant*), 2 ♂, 4 ♀; BR. E. AFRICA, Sabaki Valley (*Gregory*), 1 ♂, 3 ♀, Neugia (*Crawshay*), 1 ♂, 1 ♀, Wadelai (*Emin Pasha*), 2 ♂; BR. C. AFRICA, Zomba (*Johnston*), 1 ♀, Mandala (*de Jersey*), 1 ♀; PORTUGUESE E. AFRICA (*Imre*), 1 ♀; MASHONALAND, Salisbury (*Marshall*), 1 ♀; TRANSVAAL (*Kirby*), 1 ♀; NATAL (*Gooch, Gueinzins*), 2 ♀; C. COLONY, 2 ♂, type *candida*; ? BOURBON; SEYCHELLES, Mahé (*Michaelis*), 1 ♀; ARABIA, Lahej (*Grant*), 1 ♀, Aden (*Yerbury*), 1 ♂, 1 ♀, Muscat (*Jayakar*), 1 ♂; JAPAN, Hakodate (*Andrews*), 1 ♀, Loochoo (*Pryer*), 1 ♀; W. CHINA, Washan (*Pratt*), 1 ♂, Pu-tsu-fong, 1 ♀, Ni-tou, 1 ♀; HONG KONG (*J. J. Walker*), 1 ♂; FORMOSA (*Hobson*), 1 ♂, 2 ♀; AFGHANISTAN, Candahar (*Roberts*), 1 ♀; BELOOCHISTAN, Quetta (*Swinhoe*), 1 ♀; PUNJAB, Chitral (*Colomb*), 1 ♂, 1 ♀, Cambellpur (*Yerbury*), 1 ♂, 1 ♀ type *thyter*, Jubbulpur (*Butler*), 1 ♀; NEPAL (*Hardwicke*), 1 ♂; SIND, Karachi (*Swinhoe*), 1 ♂, 2 ♀; BOMBAY, Mirzapore, 1 ♂, Mhow (*Swinhoe*), 2 ♂, 4 ♀; MADRAS (*E. Y. Watson*), 2 ♀; NILGIRIS (*Hampson*), 1 ♂, 1 ♀; CEYLON (*Lewis*), 2 ♀; BURMA, Rangoon (*Scott*), 1 ♂, Up. Irrawaddy (*Carpenter*), 1 ♀; PHILIPPINES (*Bowring*), 1 ♀; JAVA (*Horsfield*), 1 ♂, 3 ♀; KEELING IS. (*Darwin*), 2 ♂; CHRISTMAS I. (*Andrews*), 1 ♂, 2 ♀; N. GUINEA (*Mathew*), 1 ♂, 1 ♀; N. HEBRIDES (*Mathew*), 1 ♀; SOLOMONS (*Woodford*), 2 ♂; QUEENSLAND, Moreton B., 1 ♀,

P. Essington, 1 ♂, Pt. Darwin, 1 ♂, 3 ♀; N. S. WALES, Sydney (Raynor), 2 ♂, 1 ♀; GILBERT IS. (Woodford), 2 ♂; ELLICE IS. (Mathew), 3 ♂, 2 ♀; MARSHALL IS. (Mathew), 1 ♂, 2 ♀. *Exp.* 40-46 millim.

Larva. Meyr. Brit. Lep. p. 37; Barrett, Lep. Brit. ii. p. 242, pl. 69. f. 3.

With scanty hairs, some finely branched; dark grey; dull purplish or blackish; often with orange-red transverse segmental bands; hairs black and whitish; dorsal area more or less marked with white; spiracular line often whitish; head reddish-ochreous marked with black. Food-plants, *Myosotis*, grasses, etc. 7-8 & 10-5.

2089. *Utetheisa semara*.

Utetheisa semara, Moore, Lep. E. I. C. p. 307, pl. 7 a. f. 12 (1859); Kirby, Cat. Het. p. 346.

Head and thorax grey-white tinged with yellow; palpi, except at base, antennæ, spots on frons, vertex of head, tegulæ, patagia, pro-meso- and metathorax black; legs striped with black; abdomen grey-white tinged with fuscous, with sublateral and ventral series of black spots. Fore wing whitish, thickly irrorated with grey-black, leaving a white streak in and beyond end of cell; a crimson streak below costa; basal, subbasal, medial, postmedial, and subterminal black spots on costa; a crimson streak in submedian fold, with subbasal and antemedial black spots above and below it; a short crimson streak usually present in cell, followed by a short black streak, often with another below it above vein 1; two black spots in end of cell and two on discocellulars; a series of more or less developed crimson streaks in interspaces of terminal area interrupted by a postmedial series of black spots bent outwards between veins 5 and 3, and by a subterminal series of short streaks; two black spots below costa just before apex, and a terminal series. Hind wing semihyaline white; a rather broad fuscous black terminal band with irregular inner edge.

Hab. JAVA (Horsfield), 3 ♀ type, Arjuno, 8000 ft. (Doherty), 1 ♂, 2 ♀. *Exp.* 38-46 millim.

2090. *Utetheisa ornatrix*.

Noctua ornatrix, Linn. Syst. Nat. i. p. 511 (1758); Drury, Ill. Ex. Ent. i. pl. 24. f. 2; Cram. Pap. Exot. ii. pl. 166, C, D, F; Hübn. Samml. Ex. Schmett. ii.; Stretch, Zyg. & Bomb. N. Am. p. 58, pl. 2. f. 18; Möschl. Abh. Senck. Ges. xiv. p. 32, f. 21; Druce, Biol. Centr.-Am., Het. i. p. 134; Kirby, Cat. Het. p. 345.

Deiopeia ornatrix, var. *stretchii*, Butl. Trans. Ent. Soc. 1877, p. 361; Stretch, Zyg. & Bomb. N. Am. p. 59, pl. 2. f. 17.

Deiopeia pura, Butl. Trans. Ent. Soc. 1877, p. 360.

Head and thorax white, sometimes tinged with brown; 3rd joint of palpi, antennæ, and spots on frons, vertex of head, tegulæ, patagia, and thorax black; shoulders with scarlet patches; pectus spotted with black; legs striped and banded with black; abdomen white, sometimes tinged with fuscous towards extremity and on

ventral surface; usually with sublateral series of black spots. Fore wing white suffused with pink, and sometimes tinged with brown; the costa with five black spots with scarlet streaks between them; basal black points on costa and below cell usually present; a subbasal scarlet point below the cell; an antemedial black point below vein 1 usually present; two discoidal black points; subterminal and terminal series of black points with scarlet spots between them, and sometimes some scarlet spots before the subterminal points developed into streaks towards costa and inner margin. Hind wing white, the costal area tinged with pink; a large irregular apical black patch with pink spot on it before apex, continued as a band to submedian fold or vein 1, developed into a hamate patch at middle; a discoidal band sometimes present, the black from apical patch running along subcostal nervure to middle and up vein 2 almost to cell. Underside of fore wing and costal area of hind wing deep crimson.

Ab. 1. *stretchi*. Fore wing with antemedial and medial series of black spots; four black spots from costa to lower angle of cell, and a postmedial series excurved from below costa to vein 3, then incurved; hind wing tinged with pink to median nervure.

Hab. ANTIGUA (*Gregory*), 1 ♂, 1 ♀; ST. THOMAS, 'Challenger' Coll., 1 ♀; ST. KITTS (*Markham*), 2 ♀; NEVIS, 1 ♀; ST. LUCIA (*Elliott*), 2 ♀; DOMINICA (*Elliott*), 2 ♀; ST. VINCENT (*H. H. Smith*), 3 ♀; BARBADOS (*Frampton*), 1 ♂, 2 ♀; TRINIDAD (*Broadway*), 1 ♀; MEXICO, Mazatlan, 1 ♂, 1 ♀, Jalapa (*Hoege, Trujillo*), 3 ♂, 2 ♀, Presidio (*Forrer*), 2 ♂, Milpas (*Forrer*), 1 ♂, 1 ♀, Tepic (*Richardson*), 2 ♀, Guerrero (*H. H. Smith*), 2 ♀, Durango (*Becker*), 1 ♀, Jalisco (*Schumann, Richardson*), 2 ♂, 1 ♀, Misantra (*Trujillo*), 1 ♀, Cuernavaco (*Godman*), 2 ♂, Vera Cruz (*H. H. Smith*), 1 ♂, 1 ♀, Orizaba (*Godman*), 1 ♂, 1 ♀, Tabasco (*H. H. Smith*), 2 ♀, Puebla (*Richardson*), 1 ♂, 2 ♀, Yucatan (*Gaumer*), 1 ♂; HONDURAS (*Blancaneaux*), 1 ♂, 1 ♀, type *stretchi*; GUATEMALA (*Champion*), 6 ♂, 6 ♀, type *pura*; NICARAGUA (*Richardson, Belt*), 1 ♂, 1 ♀; COSTA RICA (*Rogers, Underwood*), 2 ♂, 6 ♀; PANAMA (*Champion*), 4 ♂, 1 ♀, Godman-Salvin Coll.; VENEZUELA, 1 ♀; ECUADOR, Chiguinda, 1 ♂, 1 ♀; BOLIVIA, Cocha-bamba, 2 ♀; BRAZIL, L. Amazon, Chaves (*Austen*), 1 ♂, Pernambuco (*Ridley*), 2 ♂, 3 ♀, Theresopolis (*Michaelis*), 1 ♂, Rio Janeiro, 6 ♂, 5 ♀, São Paulo (*Jones*), 2 ♂; PERU, Callao (*J. J. Walker*), 3 ♂; GALAPAGOS IS. (*Darwin, Cookson*), 2 ♂; MARQUESAS IS. (*J. J. Walker*), 1 ♂. *Easp.* 38-46 millim.

2091. *Utetheisa bella*.

- Tinea bella*, Linn. Syst. Nat. i. p. 534 (1758); Drury, Ill. Exot. Ins. i. pl. 24. f. 3; Stretch. Zyg. & Bomb. N. Am. p. 56, pl. 2. f. 15; Druce, Biol. Centr.-Am., Het. i. p. 135; Kirby, Cat. Het. p. 346.
Deiopeia bella, var. *intermedia*, Butl. Trans. Ent. Soc. 1877, p. 361.
Deiopeia ornatrix, var. *hybrida*, Butl. Trans. Ent. Soc. 1877, p. 361.
Utetheisa bella, var. *terminalis*, Neum. & Dyar, J. N. Y. Ent. Soc. i. p. 160.

Head and thorax white; 3rd joint of palpi, rings on antennæ, and

spots on vertex of head, tegulae, patagia, and thorax black; orange spots on shoulders and patagia; pectus spotted with black; legs striped and banded with black; abdomen white, with sublateral series of black spots. Fore wing white, with more or less broad irregularly-waved orange bands between the series of black spots; a black point at base; subbasal spots on costa and below cell; a curved antemedial series of five spots, a medial series of six spots, a series at end of cell of seven spots with three or four beyond the cell; a subterminal series of nine spots, two spots just before apex, and a terminal series; cilia chequered with black except towards tornus. Hind wing pink; two black spots on medial part of costa, two conjoined spots on discocellulars often present; an apical black patch with a pink spot on it before apex, its inner edge irregular, connected with a black patch on middle of termen, and a smaller spot on vein 1, the black markings all edged with white. Underside of fore wing crimson, the costal area orange, the black spots coalescing into bands towards costa and into an interrupted subterminal band.

Ab. 1. *intermedia*. Hind wing with the apical patch smaller and interrupted, followed by a band on termen regularly narrowing to vein 1; underside of fore wing with patches of white.

Ab. 2. *hybrida*. Hind wing with maculate black antemedial band, spot at upper angle of cell, the apical patch very broad at costa, the patch on middle of termen running up vein 2 nearly to the cell, and the spot on inner area running up vein 1 to the antemedial band.

Ab. 3. *terminalis*. Hind wing with white replacing the pink; fore wing with the orange bands and black spots developed towards costa and termen only.

Hab. U.S.A., Atlantic States, types *intermedia* and *hybrida*, Texas, Zeller & Grote Colls., Alabama, Grote Coll., Florida, Grote Coll.; MEXICO, Yucatan (*Gaumer*), 1 ♂, 2 ♀, Godman-Salvin Coll. *Exp.* 40 millim.

Egg. Pack. Ann. N. Y. Ac. Sci. viii, p. 82 (1893).

Hemispherical; smooth under microscope, shining.

Larva. Stage 1. Head large, dark chestnut-brown; body pale greenish; prothoracic plate large, with four setae in front and behind; tubercles chestnut-brown; the dorsal tubercles on somites 2 and 3 with two hairs, the lateral warts with one; the dorsal tubercles on somites 4-10 with one hair; somite 11 with two hairs on dorsal tubercles, and one hair on the largest lateral one; the dorsal abdominal tubercles arranged in a trapezoid, the front two largest; hair dark brown.

Adult. Head small, reddish-chestnut, smooth, shining; body variegated with black, yellow, and white, the segments black above, with two transverse series of cream-white angular spots; the sutures broadly marked with buff, with a dusky patch on outer side; the ventral surface buff; the tubercles moderate, acutely conical, each with a single thick spinulate hair, the four dorsal tubercles on

each segment with black hairs, the lateral ones with shorter white hair. Food-plant, *Myrica gale*.

Subsp. 1. *venusta*, Dalm. Anal. Ent. p. 51 (1823); Kirby, Cat. Het. p. 346.

Tinea bella, Cram. Pap. Exot. ii. pl. 109, C, D (1777).

Deiopeia speciosa, Wlk. ii. 568 (1854); Stretch, Zyg. & Bomb. N. Am. p. 57, pl. 2. f. 16.

Thorax and fore wing with the orange markings replaced by crimson or orange-red; hind wing with the apical patch usually much reduced, and the terminal band usually narrowing regularly to a point at vein 1.

Hab. JAMAICA (*Gosse*), 1 ♂, 3 ♀; CUBA (*Ruiz*), 1 ♂, 1 ♀; HAITI (*Weddie*), 1 ♀; ANTIGUA (*Gregory*), 1 ♀. Type in Mus. Holmiæ.

Larva. Pack. Ann. N.Y. Ac. viii. p. 82.

Orange, with black bands except on ventral surface, with irregular edges indented anteriorly by dorsal and subdorsal orange spots; hairs black, white at sides; head red-brown.

*2092. *Utetheisa galapagensis*. (Plate L. fig. 12.)

Euchelia galapagensis, Wlgrn. Wien. ent. Mon. iv. p. 161 (1860); Kirby, Cat. Het. p. 351.

♀. Grey-white; head and thorax suffused with brown, leaving a white line round the eyes; abdomen whiter. Fore wing with the basal area suffused with brown, its outer edge ill-defined and oblique from costa to median nervure; a medial triangular brown band expanding regularly from costa to inner margin; two obscure spots on discocellulars and one above them below costa; an obscure maculate line beyond the cell from below costa to vein 2, bent inwards below vein 3; the postmedial line maculate, curved and more prominent towards inner margin; termen suffused with brown; cilia white. Hind wing pale brown, deeper towards termen; cilia whitish.

Hab. GALAPAGOS Is., type † ♀ in Mus. Holmiæ. *Exp.* 34 millim.

Genus SECUSIO.

	Type.
<i>Secusio</i> , Wlk. ii. 558 (1854)	<i>strigata</i> .
<i>Galtara</i> , Wlk. xxvi. 1688 (1862)	<i>purata</i> .

Proboscis fully developed; palpi porrect, extending more than twice the length of head, the 3rd joint long; antennæ of male bipectinate with moderate branches; build slender; tibiæ with the spurs moderate. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 7, 8 to form a short areole. Hind wing with vein 3 from before angle of cell; 5 from well above angle; 6, 7 stalked; 8 from middle of cell.

SECT. I. (*Galtara*). Antennæ of female bipectinate.

A. Abdomen yellowish above on terminal half.

a. Fore wing without black spots above and below median nervure at origin of vein 2.

- a*¹. Fore wing with the subterminal spots lunulate towards inner margin *extensa*.
*b*¹. Fore wing with the subterminal spots rounded *pustularia*.
b. Fore wing with black spots above and below median nervure at origin of vein 2 *pulverata*.
B. Abdomen grey above on terminal half *purata*.

2093. *Secusio extensa*. (Plate L. fig. 22.)

Sommeria extensa, Butl. A. M. N. H. (5) v. p. 343 (1880); Kirby, Cat. Het. p. 347.

♂. Head and thorax grey-white, with black spots on sides of palpi, frons, and basal joint of antennæ, on vertex of head, tegulæ, shoulders, two on patagia and two on thorax; neck with orange ring; fore and mid legs and hind tarsi streaked with black, the spurs black; abdomen orange above, with dorsal, lateral, and sub-lateral series of black points, the ventral surface whitish. Fore wing white thickly mottled with pale brown, the markings defined by white; a subbasal series of four black points angled below costa; two antemedial series of three black points in echelon above and below median nervure; a medial dentate maculate fuscous band, angled inwards in cell and submedian fold and outwards on median nervure and above vein 1; three obliquely-placed fuscous spots from costa beyond middle, with two small black spots below and rather beyond them between veins 3 and 5; a subterminal series of more or less lunulate fuscous spots; cilia white, with series of fuscous spots. Hind wing pale yellowish.

Hab. MADAGASCAR, Betsileo (Cowan), 2 ♂, 1 ♀, type. *Exp.* 48 millim.

2094. *Secusio pustularia*. (Plate L. fig. 11.)

Panagra pustularia, Wlk. xxvi. 1661 (1862).

Anthora privata, Wlk. xxxii. 334 (1865); Kirby, Cat. Het. p. 347.

Brownish grey; sides of palpi, frons, and basal joint of antennæ with black spots; black spots on tegulæ, shoulders, and two on patagia and thorax; neck with orange ring; legs with dark stripes; abdomen yellowish above, with dorsal, lateral, and sublateral series of black points. Fore wing with subbasal series of three black points; two antemedial series of three points in echelon above and below median nervure; a maculate medial brown band excurved in cell and angled inwards below it; three black spots from costa beyond middle, with two below and rather beyond them between veins 3 and 5; an irregular subterminal series of obscure brown spots; cilia with a series of dark points. Hind wing pale ochreous.

Ab. 1. Much greyer both in ground-colour and markings; hind wing grey.—Bushman's Lake.

Hab. NATAL (*Gueinzus*), 1 ♂ type *privata*; C. COLONY, Bushman's Lake (*Alston*), 1 ♀, Capetown (*Trimen*), 1 ♀ type. *Exp.* 30–38 millim.

Subsp. 1. Fore wing with subbasal series of elongate conjoined fuscous spots; the maculate medial band more developed on costal half; the subterminal spots elongate and extending to termen. Hind wing with broad diffused fuscous terminal band reduced to shorter streaks between veins 2 and 5.

Hab. BR. E. AFRICA, Mbaruk (*Betton*). *Exp.* 44 millim.

2095. *Secusio pulverata*. (Plate L. fig. 7.)

Secusio pulverata, Hmps. Ann. S. Afr. Mus. ii. p. 62 (1900).

♂. Head and thorax white tinged with brown; palpi black at sides; antennæ with the branches brown; neck orange; tegulæ, patagia, pro- and metathorax with small black spots; tibiæ at extremity and tarsi streaked with black; abdomen dull white, tinged with orange towards extremity, dorsal and two lateral series of black spots. Fore wing dull white striated with pale brown; a subbasal black mark below costa and three antemedial points in and above cell; an irregular brownish medial band from costa to submedian fold, with a short black streak on it just above median nervure, and spot above base of vein 2; a postmedial point above vein 7 with brownish mark above it on costa, two between veins 5 and 3, and one on inner margin; a terminal series of points with large spot above vein 5. Hind wing white slightly tinged with brown, with traces of curved series of subterminal spots, distinct on underside.

♀. Fore wing with postmedial black point also above vein 6.

Hab. NATAL, Karkloof (*Marshall*), 1 ♂ type, ♀ in Mus. Capensis. *Exp.*, ♂ 46, ♀ 50 millim.

2096. *Secusio purata*.

Galtara purata, Wlk. xxvi. 1688 (1862).



Fig. 218.—*Secusio purata*, ♂. †.

♂. Brownish-grey; palpi at sides and branches of antennæ black; neck with some yellow hair; black points at extremities of patagia; legs with black streaks; abdomen with dorsal, lateral, and sublateral series of black points. Fore wing with brown striæ, most prominent on terminal area; a series of black points in the interspaces just before termen. Hind wing paler and uniform in colour.

Hab. C. COLONY (*Sir A. Smith*), 1 ♂ type. *Exp.* 46 millim.

SECT. II. (*Secusio*). Antennæ of female ciliated.

- A. Fore wing with the ground-colour whitish or yellowish *mania*.
 B. Fore wing grey-brown, with postmedial series of whitish spots *strigata*.

2097. *Secusio mania*. (Plate L. fig. 15.)

Secusio mania, Druce, P. Z. S. 1887, p. 672 (1888); Kirby, Cat. Het. p. 419.

Head orange, the palpi except at base, lower part of frons, and a spot on vertex black; antennæ black, with some white on shaft above; tegulæ orange with black spots; thorax whitish, with black streaks on patagia and vertex, the metathorax with some orange; pectus orange, with black spots; legs whitish striped with black; abdomen orange-yellow above, with dorsal, lateral, and sublateral series of black points, the ventral surface whitish. Fore wing whitish or yellowish; the veins of basal half whitish defined by brown streaks, of terminal half brown; a more or less developed diffused medial brown band from costa to below cell; the terminal area suffused with brown broadly at costa, narrowing to tornus; cilia blackish, pale at tips. Hind wing orange-yellow, sometimes with deeper terminal band, or with slight dark streaks on extremities of veins towards apex.

Ab. 1. Fore wing fuscous brown, with traces of pale oblique postmedial band.

Hab. DELAGOA BAY (*Mrs. Monteiro, Kenrick*), 2 ♂, 3 ♀. *Exp.* 44 millim.

2098. *Secusio strigata*.

Secusio strigata, Wlk. ii. 559 (1854); Hmps. Moths Ind. ii. p. 50; Kirby, Cat. Het. p. 419.

Nyctemera hymenæa, Gerst. Arch. f. Nat. xxxvii. p. 360 (1871); Van der Decken, Reisen, iii. (2) p. 377, pl. 16. f. 1; Kirby, Cat. Het. p. 419.

Secusio parvipuncta, Hmps. Ill. Het. B. M. viii. p. 46, pl. 139. f. 6 (1891); Kirby, Cat. Het. p. 419.

Head orange, the palpi except at base, antennæ, and spots on frons and vertex black; tegulæ orange with black spots; patagia and thorax black-brown with pale streaks; metathorax with orange



Fig. 219.—*Secusio strigata*, ♂. 1.
 (From Moths Ind. vol. ii.)

patch; pectus orange with black spots; legs brown with pale streaks; abdomen orange, with lateral and sublateral series of black points, the ventral surface paler. Fore wing grey-brown; the veins of basal half with pale streaks; an oblique postmedial series of four whitish spots, sometimes entirely absent, extending from costa to vein 1, varying much in size and often with an additional spot beyond it above vein 3; cilia fulvous or pale at tips. Hind wing

orange-yellow to fulvous orange, the discocellulars often darker, and often with a darker terminal band.

Hab. BR. E. AFRICA, Athi, Thika-Shika, Karaluki (*Gregory*), 2 ♂, 1 ♀, Machakos (*Crawshaw*), 1 ♂, 5 ♀, Moani (*Betton*), 1 ♂, Kilimanjaro (*Hannington*), 2 ♀; NATAL (*Gueinzus*), 1 ♀ type, Malvern (*Marshall*), 1 ♂; ADEN (*Chevalier*), 1 ♂; NILGIRIS (*Lindsay*), 1 ♀ type *parvipuncta*; COIMBATORE (*Walhouse*), 1 ♂, 1 ♀. *Exp.* 32-40 millim.

Genus HAPLOA.

Haploa, Hübn. Verz. p. 182 (1827) Type.
clymene.

Proboscis fully developed; palpi porrect to well beyond frons, which is rounded; antennæ of male with cilia and bristles; build slender; scaling smooth; tibiæ with the spurs moderate. Fore wing with vein 3 from near angle of cell; 5 from above angle; 6 from upper angle or shortly stalked with 7; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from above angle; 6, 7 stalked; 8 from before middle of cell.

- A. Hind wing orange.
 - a. Tegulæ white *clymene*.
 - b. Tegulæ orange *colona*.
- B. Hind wing white.
 - a. Fore wing with dark markings.
 - a¹. Fore wing with the oblique band from below apex not angled inwards below end of cell *lecontei*.
 - b¹. Fore wing with the oblique band from below apex angled inwards below end of cell.
 - a². Fore wing without antemedial band.
 - a³. Fore wing with the discoidal band only joining the angled band *contigua*.
 - b³. Fore wing with more or less complete oblique band from middle of costal to the angled band as well as the discoidal band [*reversa*.
fulvicosta, ab.
 - b². Fore wing with more or less developed antemedial band *confusa*.
 - b. Fore wing wholly white.
 - a¹. Wings thickly scaled; size about 50 millim *lecontei* ab. &
fulvicosta.
 - b¹. Wings thinly scaled; size about 35 millim *vestalis*.

2099. *Haploa clymene*.

Phalæna clymene, Brown, Ill. Zool. p. 96, pl. 38 (1776); Kirby, Cat. Het. p. 252.

Bombyx interruptomarginata, Beauv. Ins. Afr. Amer. p. 263, pl. 25. ff. 5, 6 (1824); Stretch, Zyg. & Bomb. N. Am. p. 66, pl. 2. f. 19; Smith, Proc. U.S. Nat. Mus. x. p. 342, pl. 14. f. 1.

Hypercompa comma, Wlk. iii. 652 (1855).

Head and thorax yellowish white; palpi black, the 1st joint orange; lower part of frons and vertex of head orange; antennæ black; tegulæ and vertex of thorax with a broad black-brown stripe; pectus, legs, and abdomen orange, fore and mid tibiæ and tarsi striped with black-brown; abdomen with dorsal black-

brown stripe. Fore wing yellowish white; a black-brown fascia on costa narrowing somewhat towards base and to a point well before apex; a fascia on inner margin narrowing to a point near

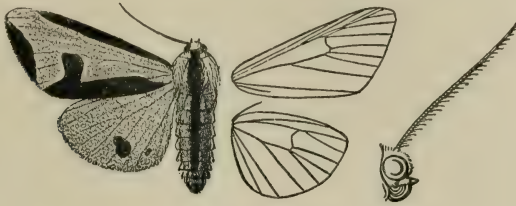


Fig. 220.—*Haploa clymene*, ♂. 1.

base and emitting an erect band to lower angle of cell; a wedge-shaped patch on termen from just below apex to vein 2. Hind wing orange, usually with a more or less developed subterminal black-brown spot below vein 2.

Hab. U.S.A., Atlantic States (*Doubleday*), type ♀ *comma*, N. York, Grote & Zeller Colls., 3 ♂, 2 ♀, Ohio (*Drury*), 1 ♂. *Exp.* 52 millim.

Larva. Dyar, Ent. News. Philad. 1896, p. 219.

Bright yellow, with white lateral stripe mottled along its upper edge with red; the anal somite with red markings (*Siewers*).

2100. *Haploa colona*.

Bombyx colona, Hübn. Eur. Schmett. ii. f. 135 (1827); Kirby, Cat. Het. p. 252.

Noctua clymene, Esp. Schmett. iv. (ii) 2. p. 10, pl. 182. f. 1; Martyn, Psyche, pl. 19. ff. 47, 48; Stretch, Zyg. & Bomb. N. Am. p. 172, pl. 7. f. 19; Smith, Proc. U.S. Nat. Mus. x. p. 344, pl. 14. f. 2.

Callimorpha carolina, Harr. Rep. Ins. Mass. p. 243 (1841); Kirby, Cat. Het. p. 252.

Tanada conscita, Wlk. xxxii. 377 (1865); Kirby, Cat. Het. p. 252.

Callimorpha lactata, Smith, Ent. Am. iii. p. 25 (1887).

Head orange, 3rd joint of palpi and antennæ black-brown; tegulæ orange, sometimes with brown spots; thorax yellowish white, with brown stripes on shoulders and dorsum; pectus and legs orange, fore and mid legs striped with brown, mid tarsi banded with brown; abdomen orange, usually with dorsal stripe or more or less developed series of spots. Fore wing yellowish white; a black-brown costal fascia ending in a point before apex; a fascia on inner margin ending in a point near base; an oblique band from middle of costa to tornus joined by a discocellular band from costa; an oblique fascia from termen below apex to the oblique band at lower angle of cell, connected with the costal fascia by an oblique postmedial bar, and with termen by more or less complete streaks on veins 3, 4, 5; cilia black-brown. Hind wing orange, usually with a more or less developed subterminal black-brown spot below vein 2, and sometimes with a point above vein 5.

Ab. 1. *carolina*. Fore wing with bands from costal fascia and the oblique fascia from termen to lower angle of cell absent or partially aborted.

Ab. 2. *conscita*. The whole of the black-brown markings aborted; fore wing with the costal edge fulvous.

Hab. U.S.A., S. Atlantic States to Texas, Grote & Vigors Coll., 7 ♂, 2 ♀, type *conscita*. *Exp.* 52 millim.

2101. *Haploa lecontei*.

Callimorpha lecontei, Guér. Icon. R. Anim., Ins. p. 517, pl. 88. f. 4 (1829); Stretch. Zyg. & Bomb. N. Am. pp. 62, 236, pl. 2. ff. 20, 21 & pl. 9. ff. 13, 14; Streck. Proc. Davenport Soc. ii. p. 275, pl. 4. ff. 5, 7; Lyman, Can. Ent. xix. p. 182. ff. 1, 2; Smith, Proc. U.S. Nat. Mus. x. p. 348, pl. 14. ff. 12-16; Kirby, Cat. Het. p. 252.

Callimorpha militaris, Harr. Rep. Ins. Mass. p. 243 (1841); Smith, Proc. U.S. Nat. Mus. x. p. 345, pl. 14. ff. 3-5; Kirby, Cat. Het. p. 253.

Hypercompa confinis, Wlk. iii. p. 651 (1853); Lyman, Can. Ent. xix. p. 183, f. 6; Kirby, Cat. Het. p. 253.

Callimorpha leucomelas, Herr.-Schäff. Aussereur. Schmett. f. 431 (1858).

Head and tegulæ orange; palpi at tips and antennæ black-brown; tegulæ often with black-brown spots; thorax white, with black-brown stripes on shoulders and vertex; pectus white; legs tinged with orange, the fore and mid legs striped with black-brown; abdomen white, often with dorsal black-brown stripe. Fore wing white; a black-brown costal fascia narrowing to a point before apex; a fascia on inner margin, narrowing to a point near base; an antemedial band oblique from costal fascia to submedian fold where it is angled; a nearly erect discoidal band from costal fascia to the fascia on inner margin, where it is joined by an oblique fascia from termen below apex; a terminal band often ending in a point above tornus. Hind wing pure white.

Ab. 1. *militaris*. Fore wing with the oblique band from below apex interrupted towards termen and between veins 3, 4.

Ab. 2. *confinis*. Fore wing with the oblique band complete, the other bands aborted.

Ab. 3. Fore wing white with the costal edge ochreous.

Hab. CANADA, Orella (*Bush*), 2 ♀; U.S.A., Atlantic States, 3 ♂, 2 ♀ (*Doubleday*), type *confinis*, Ohio (*Drury*), 1 ♀, Massachusetts, Beverly, 1 ♂. *Exp.* 50 millim.

Egg. Dyar, J. N. Y. Ent. Soc. iii. p. 59 (1895).

Very pale yellow, scarcely shining; reticulations small, close, well-marked, rounded; diam. .7 mm.

2102. *Haploa contigua*.

Hypercompa contigua, Wlk. iii. 651 (1855); Lyman, Can. Ent. xix. p. 184, f. 10; Smith, Proc. U.S. Nat. Mus. x. p. 346, pl. 14. f. 6; Kirby, Cat. Het. p. 252.

Head and tegulæ orange; palpi except at base and antennæ black; tegulæ with black spots; thorax white, with black stripes on shoulders and vertex; fore legs orange striped with black; mid

and hind legs white; mid tibiæ with brown stripes; abdomen white, with dorsal black stripe. Fore wing white; a black fascia on costa narrowing to a point before apex; a fascia on inner margin ending in a point near base; a slightly oblique band from costal fascia to the fascia on inner margin at end of cell, joined at vein 3 by an oblique irregular fascia from termen below apex; some black on medial part of termen, connected with the oblique fascia by a streak on vein 5. Hind wing with two small, somewhat obliquely placed, black-brown subterminal spots above and below vein 2.

Hab. U.S.A., Atlantic States (*Doubleday*), 1 ♂ type, Grote Coll., 1 ♀. *Exp.*, ♂ 48, ♀ 50 millim.

2103. *Haploa fulvicosta*.

Hypercompa fulvicosta, Clem. Proc. Acad. Sci. Phil. p. 536 (1861); Lyman, Can. Ent. xix. p. 188, f. 12; Kirby, Cat. Het. p. 252.

Callimorpha reversa, Stretch, Ent. Am. i. p. 104 (1885); Kirby, Cat. Het. p. 252.

Callimorpha suffusa, Smith, Bull. U.S. Nat. Mus. x. p. 347, pl. 14. ff. 7, 11 (1888); Lyman, Can. Ent. xix. p. 187, f. 11; Kirby, Cat. Het. p. 252.

Haploa reversa, var. *duplicata*, Neum. & Dyar, J. N. Y. Ent. Soc. i. p. 159 (1893).

Haploa triangularis, Smith, Ent. News Philad. x. p. 126 (1899).

(*reversa*.) Head and tegulæ orange; palpi at tips and antennæ black; tegulæ often with black spots; thorax white, with black stripes on shoulders and vertex; metathorax and legs orange; fore coxæ with black spots; fore and mid legs striped with black; abdomen white, orange at base of dorsum, sometimes with dorsal series of black points. Fore wing white; a black-brown costal fascia ending in a point before apex; a fascia on inner margin ending in a point near base; a very oblique band from costal fascia before middle to tornus, sometimes incomplete towards costa, joined by a nearly erect discoidal band from costal fascia and at vein 3 by an oblique fascia from termen below apex, which is connected with the costal fascia by an oblique postmedial bar, and with the narrow terminal band by more or less complete streaks on veins 3, 4, 5. Hind wing white, rarely with black-brown subterminal spot below vein 2.

Ab. 1. *fulvicosta* = *duplicata*. The dark markings almost or quite obsolete; ground-colour sometimes pale buff.

Hab. U.S.A., S. States, N. Jersey, Kansas, Texas, Grote Coll., 7 ♂, 10 ♀. *Exp.* 50 millim.

Egg. Marlett, Tr. Kansas Ac. xi. p. 113; Dyar, Ent. News, 1896, p. 219; id. Can. Ent. 1897, p. 97.

Hemispherical, scarcely conoidal, flattened at base; smooth, shining, rather dark yellow; reticulations obscure, visible in reflected light, narrow, linear, irregularly hexagonal; diam. 6 millim.

Larva. Stage 1. Head high, bilobed, the lobes blackish brown, clypeus pale, mouth brown; body pale yellowish; tubercles dusky pearly; hair short, stiff, white; setæ single, no subprimaries.

Stage 2. Head black, shining; body whitish; warts small, edged with brown; the shields shining black; hair not numerous, black, pale on ventral surface.

Stage 3 (interp.). Clypeus brown; warts large, black; hair short, black and white; body whitish between warts ii., becoming smoky black near wart iii. below which is a pale stripe marked with yellow, annulated behind wart iv., with two transverse marks on each somite; sublateral area shaded with brown; leg-plates black.

Stage 4 (interp.). Body black, a broad diffused dorsal grey line, joining a narrow subdorsal line; area of warts iii., iv. yellow-spotted, joined to a substigmatal grey stripe and sublateral grey marks; warts black; hair short.

Stage 5 (normal 3). Black; pale whitish dorsal, subdorsal, and substigmatal lines; a bright yellow suprastigmatal line; warts black.

Stage 5 (normal). Black; dorsal line broad, the subdorsal faint, the stigmatal broad, the substigmatal fainter, yellow; traces of a sublateral line, all more or less white-spotted.

Stage 6. Head and warts black, the latter bluish; body black; dorsal line broad, straight, interrupted at incisures and middle of somites, yellow, deeper or red at middle of somites, faint on somite 1; traces of a whitish, mottled subdorsal stripe interrupted at wart ii.; lateral stripe broad, yellow, mottled, broken by two or three transverse black lines on each somite; traces of a sublateral line; leg-plates black; ventral surface pale grey, with blackish dots; hair short, inconspicuous, black or black and white, stiff, pointed, not barbed; the white subdorsal dots absent in some specimens.

2104. *Haploa confusa*.

Callimorpha confusa, Lyman, Can. Ent. xix. p. 185, ff. 7-9 (1887); Kirby, Cat. Hët. p. 253.

White; head and tegulæ orange; palpi at extremity and antennæ black; tegulæ usually with black-brown spots; black-brown stripes on shoulders and vertex of thorax; legs tinged with orange, the fore and mid legs striped with black-brown; abdomen with dorsal black stripe or series of spots with slight orange edges. Fore wing with black-brown costal fascia ending in a point before apex; a fascia on inner margin ending in a point near base; a somewhat oblique antemedial band, often obsolete; a discoidal band sometimes broken, expanding into a broader, often very broad and irregular band, from lower angle of cell to tornus, joined at lower angle of cell by an irregular oblique fascia, sometimes broken, from termen below apex, and sometimes with a bar given off from its inner side to the fascia on inner margin; a band on termen ending in a point above tornus and sometimes connected with the oblique fascia by a streak on vein 5. Hind wing sometimes with subterminal black-brown spot below vein 2, rarely with additional spots above veins 1 and 5.

Hab. CANADA, Trenton Falls, 2 ♂, 1 ♀; U.S.A., N. Atlantic States, Massachusetts, Buffalo, Grote Coll. (*Scudder*), 7 ♂, 7 ♀, *Exp.* 50 millim.

Egg. Lyman, Can. Ent. xix. p. 186; Dyar, J. N. Y. Ent. Soc. iii. p. 59, & Ent. News, 1896, p. 219.

Spherical with the base flattened; smooth, shining, rather dark yellow; reticulations obscure, narrow, linear, irregular. Diam. .7 millim.

Larva. Stage 1. Head with the lobes shining black, the clypeus pale, mouth brown; body yellowish, the cervical shield black, bisected; warts large, black, each with long seta; wart vi. wanting, iv. behind spiracle; leg-plates with long setæ.

Stage 2. Body whitish, with a broad brown dorsal stripe extending to wart iii., but paler on median line; hair black and white, four or more from each wart; wart vi. present, elongate.

Stage 3 (? interp.). An irregular greyish-white broad dorsal line; a blackish subdorsal stripe between warts ii., iii.; a broad pale stripe above iv. marked with yellowish above each wart; a greyish sublateral shade; warts and feet black; hair short, stiff, rather sparse.

Stage 4 (? 3). Body black-brown; a broad white dorsal line and narrow subdorsal one; a bright yellow stigmatal line indented by warts iii., iv.; ventral surface white.

Stage 5 (? 4). Dorsal line dull white, yellowish between warts ii.; narrow indistinct pale subdorsal and sublateral lines; a bright yellow stigmatal line, transversely streaked at fold.

Stage 6 (interp.). Dorsal and stigmatal lines distinct, yellow, the latter broad and formed by transverse streaks on annulets; traces of a whitish sublateral stripe; warts large; hair short, abundant, bristly, black.

Stage 7 (interp.). Stigmatal line broken into four dots; the anterior and posterior transverse and yellow, the second longitudinal and white; a few pale yellow sublateral dots.

*2105. *Haploa vestalis*.

Callimorpha vestalis, Pack. Proc. Ent. Soc. Phil. iii. p. 108 (1864); Kirby, Cat. Het. p. 252.

White; head pale yellow; antennæ pale brown; legs pale orange. Fore wing immaculate or with the costa and termen slightly tinged with fuscous. Hind wing pure white.

Hab. U.S.A., N. Atlantic States westward. *Exp.* 33-37 millim. This species is unknown to me.

Genus AXIOPÆNA.

Axiopæna, Ménétr. Bull. Sci. Pétersb. ix. p. 42 (1842) Type. *maura*.

Proboscis fully developed; palpi obliquely upturned, the 2nd joint fringed with rough hair, the 3rd porrect, moderate; frons with tuft of hair; antennæ quite simple; head, thorax, abdomen, and legs smoothly scaled; tibiæ with the spurs minute. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle or from areole; 9 from 10 anastomosing with 8 to form a long areole; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 from above angle; 6, 7 shortly stalked; 8 from before middle of cell.

2106. *Axiopæna maura*.

Lombyx maura, Eichw. Zool. Spec. ii. p. 196 (1832); Rom. Mém. Lép. i. p. 86, pl. 5. f. 5; Hmps. Moths Ind. ii. p. 37; Staud. Cat. p. 57; Kirby, Cat. Het. p. 258.

Axiopæna karelini, Ménétr. Cat. Lép. Pétersb. iii. p. 160, pl. 17. f. 5 (1863).
Axiopæna fluviatilis, Swinh. Trans. Ent. Soc. 1885, p. 351, pl. 9. f. 7.

Black-brown with a leaden gloss; tegulæ slightly edged with crimson in front and behind; abdomen with more or less crimson on dorsum towards base. Hind wing with the basal area pink

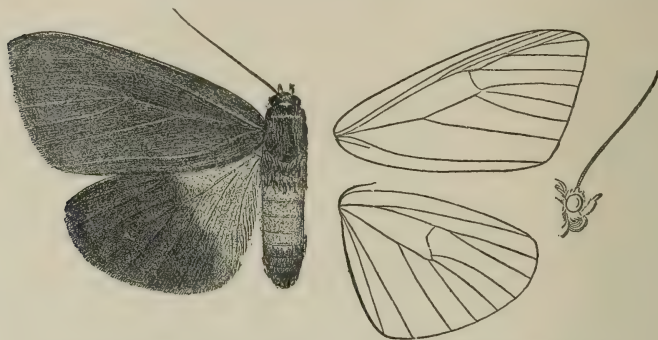


Fig. 221.—*Axiopæna maura*, ♂. $\frac{2}{3}$. (From Moths Ind. vol. ii.)

except towards costa, on inner area extending to tornus; a pink spot usually present beyond discocellulars.

Hab. ARMENIA, Batoum, Krasnowodsk, 1 ♂, 1 ♀, Zeller Coll.; TURKOMANIA; PERSIA, Bushire (*Cumming*), 1 ♂; BELOOCHISTAN, Quetta, 1 ♀ type *fluviatilis*; TURKESTAN, 1 ♂, 1 ♀. *Exp.*, ♂ 100, ♀ 116 millim.

Genus RHODOGASTRIA.

	Type.
<i>Rhodogastria</i> , Hübn. Verz. p. 172 (1827)	<i>astreas</i> .
<i>Amerila</i> , Wlk. iii. 725 (1855)	<i>astreas</i> .
<i>Canopus</i> , Wlk. iii. 747 (1855) nec Fabr. Hem. 1803.....	<i>bubo</i> .
<i>Phryganeomorpha</i> , Wllgrn. Œfv. K. Vet.-Akad. Förhandl. xv. p. 214 (1858).....	<i>astreas</i> .
<i>Amblythyris</i> , Mab. Bull. Soc. Philom. (7) iii. p. 137 (1879), non descr.	<i>vitripennis</i> .

Proboscis fully developed; palpi upturned, reaching vertex of head, the joints smoothly scaled; antennæ of male minutely ciliated; tibiae with the inner spurs long; abdomen smoothly scaled. Fore wing with the costa strongly arched towards apex; vein 3 from near end of cell; 5 from above angle; 6 from below upper angle; 9 from 10 anastomosing with 8 to form the long areole, 11 free. Hind wing with vein 3 from close to angle of cell, 5 from above angle; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. (*Canopus*). Male with a tuft of hair between antennæ rising above vertex of head; fore wing with the base of costa dilated into a large vesicle.

- A. Fore coxæ and femora tinged with yellow *bubo*.
- B. Fore coxæ and femora above crimson.
 - a. Abdomen tinged with yellow above *rufifemur* (♀).
 - b. Abdomen crimson above *lupia* (♀).

2107. *Rhodogastria bubo*.

Canopus bubo, Wlk. iii. 747 (1855); Kirby, Cat. Het. p. 196.

White; palpi banded yellow and black; antennæ black except at base of shaft; vertex of head, tegulæ, patagia, shoulders, pro-meso- and metathorax with black points, sometimes almost obsolete; legs yellow on inner side, fore femora black at extremity;

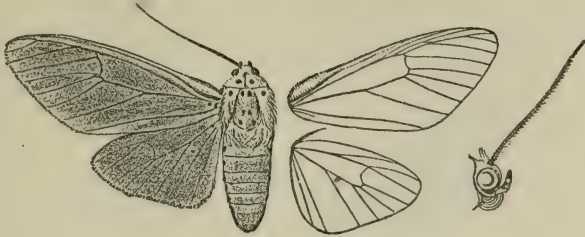


Fig. 222.—*Rhodogastria bubo*, ♂. $\frac{1}{4}$.

abdomen dorsally tinged with yellow except towards base, a lateral series of black points. Fore wing with the veins black clothed with white scales; the discal area somewhat semihyaline.

Hab. CONGO (*Curror*), 1 ♂ type; BRIT. E. AFRICA, Ruwenzori (*Scott Elliot*), 1 ♂, N'gatana (*Gregory*), 1 ♂; BE. C. AFRICA, Stevenson Rd. (*Dewar*), 1 ♂, Zomba (*Johnston*), 1 ♀. *Exp.* 68 millim.

2108. *Rhodogastria ruffifemur*. (Plate L. fig. 21.)

Canopus ruffifemur, Wlk. iii. 747 (1855); Kirby, Cat. Het. p. 196.

♀. White; palpi with black spots on the joints above; fore coxæ on outer side and fore femora above crimson; thorax, dorsal surface of abdomen, and fore wing very slightly tinged with yellow; abdomen with two lateral series of black points. Hind wing semihyaline.

Hab. CONGO (*Curror*), 1 ♀ type. *Exp.* 46 millim.

2109. *Rhodogastria lupia*. (Plate L. fig. 3.)

Pelochyta lupia, Druce, P. Z. S. 1887, p. 669 (1888); Kirby, Cat. Het. p. 196.

Amerila nivaria, Weym. Stett. ent. Zeit. liii. p. 105 (1892).

♀. White; palpi tinged with crimson above and with black spots on the joints, antennæ with black spot on basal joint; tegulæ, patagia, shoulders, and mesothorax with pairs of black spots; fore coxæ on outer side and femora and tibiæ in front crimson; abdomen dorsally crimson from 2nd segment to near extremity and with two lateral series of black spots. Fore wing with slight fuscous streaks on subcostal nervure and vein 2 and slight discoidal bar. Hind wing semihyaline.

Hab. E. AFRICA, Saadani; DELAGOA BAY, type † in Coll. Druce; NATAL (*Gooch*), 1 ♀. *Exp.* 50 millim.

SECT. II. (*Rhodogastria*). Head of male without tuft of hair; fore wing with the costa not dilated at base.

A. Hind wing of male with the tornus produced to a large pointed lobe, the inner area clothed with long flocculent hair on underside.

2110. *Rhodogastria arthus-bertrandi*.

Lithosia arthus-bertrand, Guér. Voy. Coquille, Atlas Lép. pl. 19. f. 5 (1830);

Kirby, Cat. Het. p. 195.

Chelonia saucia, Boisd. Voy. Astrolabe, Lép. p. 214 (1832).

Cretonotus caudipennis, Wlk. xxxi. 284 (1864).

Amerila piepersi, Snell. Tijds. Ent. xxii. p. 102, pl. 8. f. 4 (1879).

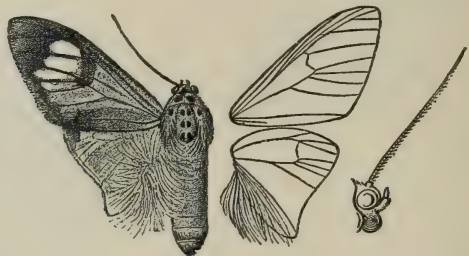


Fig. 223.—*Rhodogastria arthus-bertrandi*, ♂. †.

Head and thorax brownish grey; palpi crimson with black spots; antennæ black, the basal joint crimson and black; frons and vertex of head with black spots; tegulæ, shoulders, patagia, pro- meso- and metathorax with paired black spots, the tegulæ edged with crimson; legs crimson, streaked with fuscous and grey-brown; abdomen yellowish white, the last two segments tinged with crimson, a lateral series of black spots. Fore wing grey-brown; two black spots at base; the end of cell and area just below it semihyaline; a fuscous discoidal band; hyaline patches in the interspaces between veins 7 and 3, below vein 5 extending to near termen; the apical area rather darker brown. Hind wing semihyaline white; an apical brown patch; the hair on inner area of male ochreous.

Hab. CELEBES; ARU (*Wallace*), 1 ♂, type † ♂ ♀ *caudipennis* in Mus. OXON.; N. GUINEA. *Exp.* 54 millim.

B. Hind wing of male with the tornus slightly produced.

a. Hind wing of male with fold and fringe of hair on inner area on upperside.

a¹. Fore wing white *rubripes*.

b¹. Fore wing brown, with whitish patch beyond the cell.

a². Abdomen orange *brunnea*.

b². Abdomen pale, pink at base and extremity *roseibarba*.

c². Abdomen pink except at base *luteibarba*.

2111. *Rhodogastria rubripes*.

Amerila rubripes, Wlk. xxxi. 304 (1864); Kirby, Cat. Het. p. 196.

White; palpi crimson above, with black spots on the joints;

antennæ brown, the 1st joint crimson; tegulæ with pair of black points and edged with crimson; patagia, pro- meso- and metathorax with paired black spots; coxæ and femora above crimson; abdomen



Fig. 224.—*Rhodogastria rubripes*, ♂. †.

orange above, two lateral series of black spots; wings semihyaline; fore wing with subbasal black point on median nervure; hind wing of male with the fringe of hair orange-fulvous.

Ab. 1. Abdomen with the 1st and last three segments dorsally white.—Thursday I.

Hab. THURSDAY I. (*Mathew*), 1 ♂; N. AUSTRALIA, Pt. Darwin (*J. J. Walker*), 1 ♂, 1 ♀; QUEENSLAND, C. York (*Elsey*), 2 ♀ type. *Exp.* 56–60 millim.

2112. *Rhodogastria brunnea*, n. sp. (Plate L. fig. 5.)

♂. Head brownish yellow, with black spots at sides of joints of palpus, above frons, and on vertex of head; thorax brown, the tegulæ, shoulders, patagia, pro- meso- and metathorax with black spots; pectus and base of legs yellowish, the fore coxæ with black spots; abdomen orange, with two lateral series of black spots, the ventral surface yellowish. Fore wing brown; the disk somewhat hyaline; the discocellulars darker, with conjoined hyaline white patches beyond them above veins 4, 5, 6. Hind wing brown; the inner area tinged with orange; a hyaline fascia in and beyond upper part of cell.

Hab. R. NIGER, Sapele (*F. W. Sampson*), 1 ♂ type. *Exp.* 56 millim.

*2113. *Rhodogastria roseibarba*. (Plate L. fig. 9.)

Rhodogastria roseibarba, Druce, A. M. N. H. (7) vii. p. 74 (1901).

♂. Head and thorax pale grey-brown; palpi crimson, with black spots on the joints at sides; antennæ dull crimson; frons, vertex of head, tegulæ, patagia, pro- meso- and metathorax with black spots; legs crimson and pale brown; abdomen ochreous whitish, the 1st and last two segments dorsally pale crimson, lateral and sublateral series of black points. Fore wing pale brown, with black point at base of costa and two below median nervure; a hyaline patch in cell; the interspaces beyond and below the cell hyaline from before middle to towards termen and with sinuous

outer edge; a blackish discoidal patch; the apical area darker. Hind wing pale brown, with the cell and interspaces below and beyond it hyaline to near termen; the fringe of hair in fold of inner area pink.

Hab. SULU (*Pryer*), type † ♂ in Coll. Druce. *Exp.* 68 millim.

2114. *Rhodogastria luteibarba*, n. sp. (Plate L. fig. 18.)

Head and thorax brown; palpi with black bands on the joints; basal joint of antennæ, vertex of head, tegulæ, shoulders, patagia at base and extremity, pro- meso- and metathorax with black points, tegulæ pink below; coxæ and femora above pink; abdomen pink, brownish at base; lateral and sublateral series of black spots. Fore wing fuscous brown; two black spots at base; the cell and areas below and beyond it hyaline, the outer edge of hyaline area excurved between veins 5 and 3. Hind wing hyaline, the veins and marginal areas fuscous brown; the fringe on inner area of male yellowish.

Hab. S. NIGERIA, Abutshi (*Newman*), 1 ♂, 2 ♀, types. *Exp.* 46 millim.

b. Hind wing of male without fold and tuft on inner area.

*a*¹. Abdomen crimson below.

*a*². Hind wing with the medial terminal area crimson... *fennia*.

*b*². Hind wing with the whole terminal area brownish ochreous... *vidua*.

*b*¹. Abdomen yellow below... *nigroapicalis*.

*c*¹. Abdomen whitish below.

*a*². Head and thorax reddish buff... *vitripennis*.

*b*². Head and thorax grey-brown.

*a*³. Fore wing with the basal area white followed by fuscous... *crocei*.

*b*³. Fore wing with the basal and medial areas pale grey-brown... *astreas*.

*c*². Head, thorax, and wings white.

*a*³. Fore wing greyish... *serica*.

*b*³. Fore wing pure white.

*a*⁴. Legs crimson and white, the fore and mid tibiæ streaked with fuscous... *leucoptera*.

*b*⁴. Legs white with very slight crimson streaks... *albivitreæ*.

2115. *Rhodogastria fennia*. (Plate L. fig. 20.)

Pelochyta fennia, Druce, P. Z. S. 1887, p. 669 (1886); Kirby, Cat. Het. p. 196.

♂. Head, thorax, and base of abdomen bright red-brown; palpi red, with black spot on basal joint and bands on the other two; frons and vertex of head with black spots; antennæ black; tegulæ, patagia, pro- meso- and metathorax each with a pair of black spots; the rest of abdomen, pectus, and base of legs crimson; two pairs of lateral black points on each abdominal segment; fore coxæ with black spots; tibiæ and tarsi mostly black. Fore wing red-brown with two semihyaline streaks in cell; semihyaline patches beyond the cell between bases of veins 7 to 2 and a streak below medial part of cell and vein 2. Hind wing red-brown, with a hyaline

patch in, below, and beyond cell; the veins tinged with crimson; a crimson patch on termen between veins 5 and 2. Underside of fore wing with crimson subcostal streak; hind wing crimson, with the costal area red-brown.

Hab. GAMBIA (*Sir A. Moloney*), 1 ♂ type † in Coll. Druce; NIGER R., Sapele (*F. W. Sampson*), 1 ♂; E. AFRICA, Moshi. *Exp.* 54 millim.

2116. *Rhodogastria vidua*.

Noctua vidua, Cram. Pap. Exot. iii. pl. 264, C (1779); Kirby, Cat. Het. p. 195.

Noctua mauritia, Stoll, Pap. Exot. iv. pl. 345, B (1731); Kirby, Cat. Het. p. 195.

Noctua puella, Fabr. Ent. Syst. 3. i. p. 474 (1794).

Head and thorax red-brown; palpi crimson with black spots; antennæ black; frons and vertex of head with black spots; tegulæ, patagia, shoulders, pro- meso- and metathorax with paired black spots, the tegulæ crimson below; legs crimson striped with brown; abdomen crimson, dorsally tinged with brown, two lateral series of black spots. Fore wing red-brown; two black points at base; the cell, area below it, and interspaces between veins 7 and 2 semihyaline. Hind wing brownish ochreous, the disk semihyaline.

Hab. LAGOS (*Strahan*), 1 ♂; OLD CALABAR (*Sampson*), 1 ♂; GUINEA; GOLD COAST (*Johnson*), 1 ♂; CONGO (*Curror, Monteiro*), 2 ♂, 1 ♀. *Exp.* 50 millim.

*2117. *Rhodogastria nigroapicalis*.

Pelochyta nigroapicalis, Auriv. Ent. Tidskr. 1899, p. 242.

♀. White; palpi, basal joint of antennæ, and back of head pink, the extremities of joints of palpi black; the vertex of head; tegulæ, patagia in front and behind, meso- and metathorax with black spots; pectus yellow; legs pink, the fore tibiæ and tarsi with fuscous streaks above; abdomen crimson above, yellow below. Fore wing with two subbasal black points; the terminal area fuscous black, forming a large apical patch with oblique inner edge, narrowing at middle then expanding towards tornus. Hind wing with apical fuscous patch; the inner area fuscous, expanding on termen to below vein 3.

Hab. CAMEROONS, Barombi (*Preuss*). *Exp.* 58 millim. Type in Coll. Staudinger. This species is unknown to me.

2118. *Rhodogastria vitripennis*.

Aganais vitripennis, Blanch. d'Orbigny's Dict. Hist. Nat., Atlas Zool. ii. Ins. Léop. pl. 13. f. 3 (1849); Kirby, Cat. Het. p. 194.

Amblythyris radama, Mab. Bull. Soc. Philom. (7) iii. p. 137 (1879).

Pelochyta vidua, Saalm. Lep. Madag. i. p. 150, pl. 5. f. 52 (1884), nec Cram.

Head and thorax reddish buff; palpi crimson, with black points above; upper part of frons, basal joint of antennæ, and vertex of head with black points; tegulæ, shoulders, pro- meso- and metathorax with pairs of black spots; legs mostly crimson, with black

points on outer side of coxæ; abdomen crimson above, yellowish-white below, with lateral series of black spots and sublateral spots on first three segments. Fore wing reddish buff; two black points at base; a large discal hyaline patch formed by patches in and below cell and in base of interspaces beyond it between veins 7 and 2, between veins 3 and 5 extending rather nearer termen. Hind wing reddish buff, the inner area tinged with crimson; a semi-hyaline patch in and beyond end of cell.

Hab. MADAGASCAR, Betsileo (*Cowan*), 1 ♂, 1 ♀; NATAL. *Exp.*, ♂ 66, ♀ 70 millim.

2119. *Rhodogastria crockeri*. (Plate L. fig. 14.)

Euprepia crockeri, MacL. King's Surv. Austr. ii. p. 465 (1827); Kirby, Cat. Het. p. 195.

Amerila brachyleuca, Meyr. P. Linn. Soc. N. S. W. (2) i. p. 765 (1886).

Head and thorax ochreous white; palpi crimson with black spots antennæ black, crimson at base; frons and vertex of head with black spots; tegulæ, shoulders, patagia, pro- meso- and metathorax with paired black spots, the tegulæ edged with crimson; legs mostly crimson; fore and mid tibiæ with black streaks; abdomen crimson, the ventral surface ochreous white, two lateral series of black spots. Fore wing with the basal fourth ochreous white, with two black spots, the rest of wing fuscous brown; the end of cell and area below it semihyaline; a discoidal fuscous band; hyaline patches beyond the cell between veins 7 and 3 extending to near termen below vein 5. Hind wing semihyaline whitish, the veins and inner area ochreous brown; a darker apical patch.

Hab. QUEENSLAND (*McGillivray*, *Elsey*), 3 ♂, 1 ♀; N. BRITAIN, 1 ♀. *Exp.* 60–68 millim.

2120. *Rhodogastria astreas*.

Glaucopis astreas, Drury, Ill. Exot. Ent. ii. p. 28, f. 4 (1773); Hmps. Moths Ind. ii. p. 38; Kirby, Cat. Het. p. 195.

Sphinx melanthus, Cram. Pap. Exot. iii. pl. 286, B (1780).

Noctua eugenia, Fabr. Syst. Ent. 3. ii. p. 19 (1794).

Chelonia madagascariensis, Boisd. Delegorgue, Voy. Afr. Austr. ii. p. 598 (1847); Kirby, Cat. Het. p. 195.

Amerila rhodopa, Wlk. xxxi. 305 (1864); Kirby, Cat. Het. p. 195.

Cretonotus communis, Wlk. xxxi. 283 (1864); Kirby, Cat. Het. p. 195.

Amerila vitrea, Plotz, Stett. ent. Zeit. xli. p. 84 (1880); Kirby, Cat. Het. p. 195.

Rhodogastria fraterna, Moore, Trans. Ent. Soc. 1884, p. 356; Kirby, Cat. Het. p. 195.

Amerila bauri, Möschl. Verh. zool.-bot. Ges. Wien, xxxiii. p. 289, pl. 16. f. 2 (1884).

Amerila phædra, Weym. Stett. ent. Zeit. liii. p. 106 (1892).

Head and thorax brownish grey to almost pure white; palpi crimson with black spots; frons above, basal joint of antennæ, and vertex of head with black spots, the basal joint crimson below; tegulæ, shoulders, patagia, pro- meso- and metathorax with paired

black spots, the tegulæ crimson below; legs mostly crimson, fore and mid coxæ with lateral black spots. Fore wing brownish white; two black points at base; a large discal hyaline patch in and below end of cell and in the interspaces beyond it, extending to near



Fig. 225.—*Rhodogastria astreas*, ♂. 1. (From Moths Ind. vol. ii.)

termen between veins 5 and 2; a more or less broad discoidal band, the costal area from middle and an apical patch broad to vein 5, then narrow to vein 2, darker brown.

Ab. 1. *madagascariensis*. Fore wing with the discoidal band reduced to a line on discocellulars, the colour being almost white in the form *fraterna* from Bombay, grey-brown in *madagascariensis* = *rhodopa* from S. Africa and S. India, darker brown in *vitrea* from W. Africa.

Ab. 2. *bauri*. Tegulæ without spots; fore wing with the hyaline spots beyond the cell defined by dark edges.—C. Colony.

Hab. E. AFRICA, Saadani; CONGO, 1 ♀; ANGOLA (*Mrs. Monteiro*), 1 ♂; NATAL (*Gooch*), 2 ♂, 1 ♀, (*Marshall*) 1 ♀; C. COLONY, Grahamstown, 1 ♂; W. CHINA, Ta-chien-lu, Chia-kou-ho (*Pratt*), 1 ♂, 1 ♀; FORMOSA (*Hobson*), 1 ♂; BENGAL (*Russell*), 3 ♀; BOMBAY (*Leith*), 2 ♂, 1 ♀, type *fraterna*; SHEVAROY HILLS (*Morris*), 1 ♂; COIMBATORE (*Walhouse*), 1 ♂, type *rhodopa*; CEYLON, 1 ♂, 1 ♀; BURMA, Toungoo (*Watson*), 1 ♀; BALI (*Doherty*), 1 ♀; BOURU, type ♂ *communis* in Mus. Oxon.; ARU (*Wallace*), 1 ♀. *Exp.* 46–74 millim.

*2121. *Rhodogastria serica*.

Amerila serica, Meyr. P. Linn. Soc. N. S. W. (2) i. p. 765 (1886); Kirby, Cat. Het. p. 195.

Head and thorax white; palpi crimson, white in front, the extremity of the joints black; antennæ blackish, crimson at base, the basal joint crimson with a black spot, vertex of head with black point; tegulæ, patagia, pro- meso- and metathorax with paired black points; legs brownish white, striped with crimson; abdomen crimson above, the ventral surface white, with lateral and sublateral series of black points. Fore wing uniform whitish fuscous; the base white, with black points on costa and median nervure. Hind wing uniform whitish fuscous.

Hab. QUEENSLAND, Rockhampton, Gayndah. *Exp.* 52–54 millim. This species is unknown to me.

2122. *Rhodogastria leucoptera*, n. sp. (Plate L. fig. 4.)

♀. Head, thorax, and base of abdomen white; palpi crimson with black spots; antennæ blackish, the basal joint crimson and black; frons and vertex of head with black points; tegulæ, shoulders, pro- meso- and metathorax with black points; legs striped crimson and white, fore and mid tibiæ striped with fuscous; abdomen dorsally crimson, the ventral surface white, two lateral series of black points; wings semihyaline white; fore wing with two black spots at base.

Hab. SIERRA LEONE (*Mitford*), 1 ♀ type. *Exp.* 56 millim.

2123. *Rhodogastria albivitreæ*, n. sp. (Plate L. fig. 19.)

♂. White; palpi crimson above, banded with black; antennæ yellow, the basal joint with crimson and black spots; tegulæ, patagia, pro- meso- and metathorax with black points; coxæ at sides and fore and mid femora in front crimson; abdomen crimson above, with lateral series of black spots; wings almost hyaline.

Hab. LOYALTY Is., Lifu, 1 ♂ type. *Exp.* 48 millim.

Genus **MIGOPLASTIS.**

<i>Migoplastis</i> , Feld. Verh. zool.-bot. Ges. Wien, xviii. p. 285 (1868).	Type. <i>correcta.</i>
<i>Pachyphilona</i> , Butl. Trans. Ent. Soc. 1875, p. 325	<i>correcta.</i>
<i>Dondera</i> , Moore, A. M. N. H. (4) xx. p. 344 (1877)	<i>alba.</i>

Proboscis fully developed; palpi with the 2nd joint upturned to vertex of head, the 3rd porrect; frons with tuft of scales; antennæ bipectinate in both sexes; tibiæ with the spurs short. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form a long areole; 11 from cell. Hind wing with vein 3 from well before angle of cell; 5 from above angle; 6, 7 from upper angle; 8 from middle of cell.

SECT. I. (*Dondera*). Hind wing of male with the termen strongly excised between vein 4 and tornus; antennæ with the branches moderate.

2124. *Migoplastis alba*.

Dondera alba, Moore, A. M. N. H. (4) xx. p. 344 (1877); id. Lep. Ceyl. ii. p. 48, pl. 98. f. 3; Hmps. Ill. Het. B. M. ix. p. 79, pl. 157. f. 25; id. Moths Ind. ii. p. 45; Kirby, Cat. Het. p. 423.



Fig. 226.—*Migoplastis alba*, ♂. 1.

White; head and front of thorax tinged with yellow; palpi black at tips; antennæ with the branches black; frons, vertex of head, tegulæ, shoulders, patagia, pro- meso- and metathorax, and fore

coxæ with black points; legs striped with fuscous; abdomen strongly tinged with orange-yellow, a dorsal series of black bands and lateral and sublateral series of points. Fore wing very slightly tinged with fuscous; two black points at base. Hind wing and underside of fore wing strongly tinged with fuscous.

Hab. CEYLON, Pundaloya (*Green*), 1 ♂, 2 ♀ type. *Exp.*, ♂ 50, ♀ 52 millim.

SECT. II. (*Migoplastis*). Hind wing of male with the termen not excised; antennæ with the branches long.

2125. *Migoplastis correcta*.

Hypsa correcta, Wlk. xxxi. 217 (1864); Hmps. Moths Ind. ii. p. 44; Kirby, Cat. Het. p. 393.

Migoplastis ceylonica, Feld. Verh. zool.-bot. Ges. Wien, xviii. p. 285 (1868); Moore, Lep. Ceyl. ii. p. 54, pl. 100. f. 5.

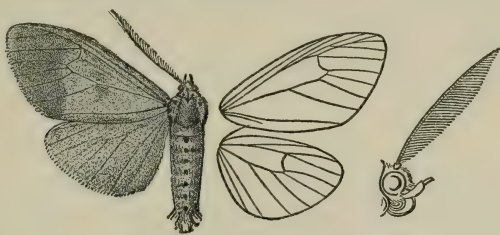


Fig. 227.—*Migoplastis correcta*, ♂. 1.

Head and thorax brown; palpi with the 2nd and 3rd joints blackish; vertex of head, tegulæ, shoulders, pro- meso- and meta- thorax, pectus and fore coxæ with black points; abdomen orange, with dorsal, lateral, and sublateral series of black points, the ventral surface tinged with brown. Fore wing brown, with obscure paler band across and beyond end of cell from costa to vein 1, slightly angled at median nervure, then oblique. Hind wing orange-yellow.

Hab. CEYLON, Pundaloya (*Green*), 2 ♂, 2 ♀, type. *Exp.* 52 millim.

Genus PARAPLASTIS, nov.

Type, *P. hamptoni*.

Proboscis fully developed; palpi upturned, the 2nd joint reaching vertex of head, the 3rd somewhat porrect; frons with slight tuft of hair; antennæ bipectinate with moderate branches in both sexes; tibiæ with the spurs short. Fore wing with vein 3 from well before angle of cell; 5 from just above angle; 6 from upper angle; 7, 8 and 9, 10 stalked; 11 from cell. Hind wing with vein 3 from well before angle of cell; 5 from well above angle; 6, 7 stalked; 8 from middle of cell; male with the termen strongly excised towards tornus, the inner margin folded over below, the terminal area between veins 6 and 1 on upperside clothed with rough scales.

2126. *Paraplastis hamptoni*.

Migoplastis hamptoni, Swinh. P. Z. S. 1889, p. 402, pl. 43. f. 2; Hmps. Moths Ind. ii. p. 44; Kirby, Cat. Het. p. 393.

♂. Brown; palpi black towards tips; frons, vertex of head, tegulæ, shoulders, pro- meso- and metathorax, pectus and fore coxæ with

black points; abdomen with dorsal, lateral, and sublateral series of black points, the anal tuft orange. Fore wing with two black points at base; a pale band edged by whitish lines across and

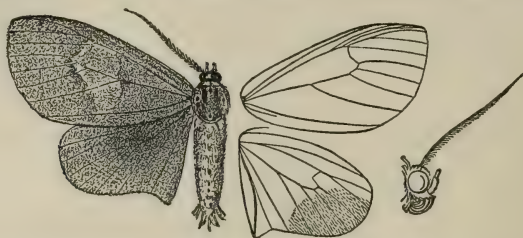


Fig. 228.—*Paraplastis hampsoni*, ♂. †. (From Moths Ind. vol. ii.)

beyond end of cell from costa to vein 1, angled at median nervure, then oblique. Hind wing with the rough scales on terminal area orange.

♀. Abdomen orange above.

Hab. NILGIRI PLATEAU 6000 ft. (*Hampson, Lindsay*), 1 ♂, 4 ♀, type; SHEVAROY HILLS (*Morris*), 1 ♂. *Exp.* 54 millim.

Genus ILEMODES.

Type.

Ilemodes, Hmps. Ann. S. Afr. Mus. ii. p. 53 (1900) *heterogyna*.

Proboscis fully developed; palpi porrect to just beyond the frons; antennæ of male bipectinate, of female with bristles and cilia; tibiæ with the spurs moderate. Fore wing rather long and narrow; vein 3 from close to angle of cell; 4, 5 from angle; 6 from upper angle; 7, 8 and 9, 10 stalked; 11 free. Hind wing with vein 3 from angle of cell; 4, 5 stalked; 6, 7 stalked; 8 from before middle of cell.

2127. *emodes Ilheterogyna*.

Ilemodes heterogyna, Hmps. Ann. S. Afr. Mus. ii. p. 53 (1900).

♂. Head and thorax white, frons orange; palpi at tips and antennæ brown; fore tibiæ and tarsi brown above; pro- and meta-thorax with pairs of black spots; abdomen orange-yellow. Fore



Fig. 229.—*Ilemodes heterogyna*, ♂. †.

wing ochreous, thickly irrorated with purplish brown; a black discoidal point; a white fascia on inner margin extending to vein 1. Hind wing orange-yellow, with black discoidal spot.

♀. Fore wing silvery white, with black discoidal point and black-brown fascia above vein 1.

Hab. NATAL (*Heale*), 1 ♀; C. COLONY, E. London (*Borchards*), 1 ♂ 1 ♀, type. *Exp.* 40 millim.

ADDENDA, May 31st, 1901.

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1205. *Idalus rosea*, insert (syn.) *Elysus chrysellus*, Druce, A. M. N. H. (7) vii. p. 434 (1901).

*1205 a. *Idalus venata*. (Plate XLVIII. fig. 2.)

Idalus venata, Dognin, Le Nat. (2) 337. p. 69 (1901).

Idalus venata, Dognin, Le Nat. (2) 338. p. 88 (1901).

♂. Fore wing with small scale-like circular patch below cell near base on underside; hind wing with vein 8 from angle of cell; antennæ with the branches short. Head, thorax, and abdomen fulvous orange; antennæ and legs, except at base, black. Fore wing fulvous orange tinged with brown; the veins finely streaked with black. Hind wing pale yellow, the inner area tinged with orange.

Hab. COLOMBIA, type † ♂ in Coll. Dognin. *Exp.* 44 millim.

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1212. *Idalus daga*, subsp. *dares*, insert (syn.) *Eucyrtia lucens*, Druce, A. M. N. H. (7) vii. p. 434 (1901).

Ab. 1. *lucens*. Fore wing with the black streaks reduced to slight marks at base and on discocellulars, a spot above base of vein 6, and subterminal spots on each side of vein 6 and two below vein 2.—Colombia.

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1317. *Melese incerta*, insert (syn.) *Neritos blanda*, Druce, A. M. N. H. (7) vii. p. 434 (1901).—Colombia.

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1415 a. *Opharus flavicostata*. (Plate XLVIII. fig. 1.)

Opharus flavicostata, Dognin, Le Nat. (2) 337. p. 69 (1901).

Fore wing with vein 7 from 8 beyond 9.

♂. Dark brown; abdomen with yellowish-white sublateral stripes. Fore wing with pale yellow fascia on costal area leaving the costal edge brown and ending in a point just before apex. Hind wing pale brownish; the costal area and the area from apex to vein 3 darker.

Hab. COLOMBIA, Cauca Valley, Palmyra, type † ♂ in Coll. Dognin. *Exp.* 40 millim.

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*1453 a. *Amastus genoveva*. (Plate XLVIII. fig. 14.)

Phægoptera genoveva, Dognin, Le Nat. (2) 334. p. 31 (1901).

♀. Pale fawn colour; palpi streaked with black at sides; antennæ black; thorax dorsally crimson; abdomen dorsally crimson,

with lateral series of black spots and dorsal black patches on last two segments. Fore wing semihyaline except marginal areas; traces of pale patches in and beyond end of cell, and of a pale waved subterminal line. Hind wing almost hyaline except marginal areas.

Hab. VENEZUELA, Merida, type † ♀ in Coll. Dognin. *Exp.* 86 millim.

*1455 *a.* ***Amastus episcotosia*.** (Plate XLVIII. fig. 11.)

Amastus episcotosia, Dognin, Le Nat. (2) 337. p. 69 (1901).

♀. Head black, with crimson stripe on frons and bands between antennæ and at back of head; thorax deep crimson, the tegulæ with whitish band edged with black, the patagia with black stripe edged with whitish above; legs black; abdomen orange, the hair on dorsum crimson, the subterminal segment with bluish-centred black dorsal band, the two segments before it with similar lateral spots and the terminal segment with elliptical dorsal spot, the ventral surface black. Fore wing rich dark brown; the inner margin with fine white stripe; a blackish discoidal patch on a paler patch extending to inner margin as an obscure narrowing band; traces of a pale curved subterminal band; cilia whitish. Hind wing pale brown, with a little reddish hair on basal area, the veins and termen darker.

Hab. PANAMA, Chiriqui, type † ♀ in Coll. Dognin. *Exp.* 100 millim.

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*1464 *a.* ***Amastus polystrigata*.** (Plate XLVIII. fig. 8.)

Amastus polystrigata, Dognin, Le Nat. (2) 337. p. 69 (1901).

♀. Head and tegulæ pale fuscous brown; palpi with lateral spots on 1st two joints and the 3rd joint black; patagia and thorax brownish white, the tegulæ and patagia with black points; coxæ and femora above orange; mid and hind tibiæ and tarsi with black points; abdomen orange-yellow, the ventral surface whitish, a sub-lateral series of black points. Fore wing whitish, thickly striated with pale red-brown, some rather darker striæ forming an ante-medial spot in cell, a discoidal spot, a medial band, a band from costa beyond middle to termen at vein 3, and a band on apical part of termen. Hind wing white, with slight brown striæ at apex.

Hab. VENEZUELA, Merida, type † ♀ in Coll. Dognin. *Exp.* 74 millim.

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*1635 *a.* ***Hyphoraia subnebulosa*.** (Plate XLVIII. fig. 15.)

Hyphoraia subnebulosa, Dyar, Ent. News Philad. x. p. 130 (1899).

♀. Deep chocolate-brown; tegulæ olive-yellow; patagia and thorax streaked with olive-yellow; pectus and legs red-brown.

Fore wing with olive-yellow streaks on base of costa and median nervure, conjoined by a bar near extremity; a streak on vein 1 extending to middle and conjoined to the median streak by an oblique antemedial bar; an irregular oblique patch from middle of costa to below median nervure, with a somewhat triangular spot beyond it at upper angle of cell; an irregular postmedial band angled outwards below costa and at vein 5, then very oblique to submedian fold where it is acutely angled, and outwardly oblique to above inner margin, emitting an angled streak along vein 6 to costa before apex; an irregular subterminal band, angled inwards on vein 4 and in submedian fold and outwards on vein 2. Hind wing olive-yellow, the veins, a discoidal lunule, and the inner and terminal areas broadly chocolate; cilia of both wings pale pink. Underside of fore wing with the costa deep crimson, the termen of both wings and costa of hind wing pale crimson.

Hab. ALASKA, Kuskæquin R. (*Bethel*), type † in Coll. Dyar. *Exp.* 40 millim.

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*1640 *a.* **Laora ubiana.** (Plate LI. fig. 12.)

Antarctia ubiana, Druce, A. M. N. H. (7) i. p. 148 (1898).

♂. Fulvous brown; palpi, antennæ, legs, and ventral surface of abdomen fuscous brown; abdomen dorsally orange fuscous. Fore wing with the veins somewhat paler; a very indistinct dark discoidal mark. Hind wing with the cell and inner area tinged with orange; the disk rather thinly scaled.

Hab. PANAMA, Chiriqui, type † ♂ in Coll. Druce. *Exp.* 40 millim.

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1642 *a.* **Ocnogyna berytta.**

Ocnogyna banghaasi var. *berytta*, Staud. Iris, viii. p. 291 (1895).

♂. Head and thorax red-brown; palpi dark brown; antennæ with the branches blackish below; legs marked with black, the femora crimson above; abdomen red-brown, the sides tinged with crimson, dorsal and sublateral blackish stripes. Fore wing red-brown; the base of inner margin tinged with crimson; a basal blackish patch in and below cell; an indistinct antemedial line from subcostal nervure to inner margin, angled outwards on median nervure; an irregularly sinuous medial line; a small discoidal lunule; a postmedial band, its inner edge curved, its outer angled outwards at veins 6, 2 and inner margin; a subterminal series of spots in the interspaces interrupted above tornus. Hind wing pale red-brown, the inner area tinged with crimson; a black discoidal spot; a subterminal maculate band angled outwards at costa and veins 5 and 2 and interrupted above tornus.

Hab. SYRIA, 1 ♂. *Exp.* 32 millim.

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1678 a. *Mænas semiramis*.

Spilosoma semiramis, Staud. Iris, iv. p. 161, pl. 3. f. 4 (1891); Kirby, Cat. Het. p. 908.

Pale grey-brown. Fore wing with blackish subbasal spot below costa; an antemedial series of five spots partially conjoined towards costa; medial spots below costa, on median nervure, and above vein 1; two discoidal points with a spot above them on costa; a spot just beyond lower angle of cell, and others on veins 2 and 1; a slightly curved postmedial series of six spots, the two towards costa conjoined, a subterminal series of six points on the veins from costa to vein 3; a series of dark points on cilia. Hind wing brownish white, with fuscous discoidal bar; a small subterminal spot above vein 5, and others above and below 2 and on vein 1.

Hab. ASIA MINOR; SYRIA, 1 ♀. *Exp.* 38 millim.

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1682 a. *Mænas flavata*, n. sp. (Plate LI. fig. 7.)

♂. Head and thorax black-brown; legs orange-yellow; abdomen orange-yellow, with dorsal black stripes narrowing and broken up into bands towards extremity. Fore wing orange-yellow; the base and inner area to antemedial line suffused with black; the ante- and postmedial black lines rather diffused, the former angled outwards below costa, then oblique, the latter interrupted in places, excurved from below costa to vein 3, then incurved; a prominent small discoidal black spot; a terminal blackish band with minutely dentate inner edge. Hind wing orange-yellow, with narrow terminal black band from costa to vein 3, with dentate inner edge and a slight mark at vein 1.

Hab. PERU, Limbane, 6000 feet (*Simons*), 1 ♂ type. *Exp.* 28 millim.

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1687. *Mænas laboulbeni*, insert (syn.) *Palustra argentina*, Berg, Ann. Soc. Argent. iii. p. 22 (1877); Kirby, Cat. Het. p. 225.

♂. Hind wing white, slightly tinged with ochreous towards termen.—ARGENTINA, type ♂ in Mus. Buenos Ayres.

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1690 a. *Mænas tenuis*. (Plate LI. fig. 8.)

Palustra tenuis, Berg, Stett. ent. Zeit. xxxviii. p. 259 (1877); Kirby, Cat. Het. p. 225.

♂. Fulvous brown; fore coxæ at sides and femora above orange; abdomen dorsally orange. Fore wing with indistinct dark discoidal spot and curved slightly waved subterminal line. Hind wing ochreous white; the inner area with some orange hair; the costal

and terminal areas tinged with brown; an ill-defined discoidal spot and sinuous interrupted subterminal line; the discoidal spot and subterminal line prominent on underside.

♀. Hind wing red-brown.

Hab. ARGENTINA, Buenos Aires (*Leech*), 1 ♂, 7 ♀. *Exp.*, ♂ 32, ♀ 42-46 millim.

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1754 a. *Diacrisia leopardina*.

Chelonia leopardina, Mén. Bull. Phys.-math. Pét. xvii. p. 218 (1859); Schrenck's Reisen, Lep. p. 51, pl. 4, f. 5 (1859); Kirby, Cat. Het. p. 261.

♂. Head and thorax brown-buff; palpi and antennæ blackish; abdomen yellow-buff, with dorsal and sublateral series of blackish spots. Fore wing buff, with short black subbasal streak above vein 1; a longer streak below middle of cell and base of vein 2; a point in upper angle of cell and two at lower angle; short post-medial streaks on each side of vein 5, a spot below vein 3 and slight streak below 2. Hind wing crimson; a black fascia on median nervure forking on vein 2; a streak on basal half of vein 1; a spot at upper angle of cell; subterminal spots on veins 5, 2, and 1; cilia yellowish.

Hab. SYRIAN ALPS, 1 ♂; AMUR. *Exp.* 44 millim.

List of unrecognized Species.

Antarctica bicolor, Pack. Rep. Peabody Acad. i. p. 63 (1869); Kirby, Cat. Het. p. 225. Amazons.

Arctia gruneri, Staud. Stett. ent. Zeit. xxviii. p. 104 (1867); Kirby, Cat. Het. p. 264. ? Near *Phragmatobia maculosa*.

Altai.
,, *romanovi*, Gr.-Grschm. Hor. Soc. Ent. Ross. xxv. p. 462 (1891); Kirby, Cat. Het. p. 912. ? *Phragmatobia*.

C. Asia, Sinin Schan Mts.
,, *sieversi*, Gr.-Grschm. Hor. Soc. Ent. Ross. xxv. p. 462 (1891); Kirby, Cat. Het. p. 912. ? *Phragmatobia*.

C. Asia, Sinin Schan Mts.
,, *tancrei*, Staud. Stett. ent. Zeit. xlviii. p. 81 (1887); Kirby, Cat. Het. p. 257. Issyk-Kul.

Bombyx adaeana, Fabr. Mant. Ins. ii. p. 123 (1787); Kirby, Cat. Het. p. 908. ? Allied to *Ocnogyna atlantica*. Spain.

,, *crucifera*, Sepp, Surin. Vlind. iii. pl. 103 (1852); Kirby, Cat. Het. p. 201. Surinam.

,, *obscura*, Sepp, Surin. Vlind. iii. pl. 109 (1852); Kirby, Cat. Het. p. 201. Surinam.

,, *pasinuntia*, Stoll, Pap. Exot. iv. pl. 367, H (1782); Kirby, Cat. Het. p. 912. ? Near *Pericallia conflictalis*, Wlk.

Amboina.
Charidea bicolor, Herr.-Schäff. Corresp.-blatt. Regensb. xx. p. 116 (1866); Kirby, Cat. Het. p. 167. Description insufficient. Cuba.

- Ecpantheria conspersa*, Wlk. xxxv. 1908 (1866); Kirby, Cat. Het. p. 217. Type lost. Bogotá.
- Erithales proxima*, Grote, Proc. Ent. Soc. Philad. vi. p. 320 (1867); Kirby, Cat. Het. p. 237. ? *Eucereon*. Cuba.
- Euchaetes nivea*, Maass. Stübel's Reisen S. Amer., Lep. pp. 56, 131, pl. 4. f. 28 (1890); Kirby, Cat. Het. p. 237. Ecuador.
- Halesidota corticea*, Wlk. vii. 1707 (1856); Kirby, Cat. Het. p. 213. Type lost. Venezuela.
- „ *grata*, Wlk. xxxv. 1910 (1866); Kirby, Cat. Het. p. 211. Type lost. Bogotá.
- „ *secta*, Wlk. xxxi. 313 (1864); Kirby, Cat. Het. p. 206. Type lost. ? Honduras or Peru.
- Holomelina lunulata*, Herr.-Schäff. Aussereur. Schmett. p. 17 (1850); Kirby, Cat. Het. p. 352. Description insufficient. ? Hab.
- Laora variabilis*, Phil. Bol. Soc. Nat. de Agric. xviii. p. 3, fig. 2 (1887); Kirby, Cat. Het. p. 275. Chili.
- Malabus lateritius*, Möschl. Verh. zool.-bot. Ges. Wien, xxvii. p. 653, pl. 9. f. 21 (1877); Kirby, Cat. Het. p. 247. Surinam.
- Melora amygdaloides*, Wlk. iii. 773 (1855); Kirby, Cat. Het. p. 204. Type lost. Brazil.
- Ocnogyna bellieri*, Led. Verh. zool.-bot. Ges. Wien, v. p. 203 (1855); Kirby, Cat. Het. p. 264. ? Near *Phragmatobia maculosa*. Asia Minor.
- Pais illuminata*, Maass. Stübel's Reisen S. Amer., Lep. pp. 98, 129, pl. 4. f. 20 (1890); Kirby, Cat. Het. p. 39. ? *Utheisa*. Bolivia.
- Phalæna leucostigma*, Sepp, Surin. Vlind. pl. 112 (1852); Kirby, Cat. Het. p. 907. ? *Neritos*. Surinam.
- Phragmatobia modesta*, Maass. Stübel's Reisen S. Amer., Lep. pp. 98, 131, pl. 4. f. 30 (1890); Kirby, Cat. Het. p. 246. Bolivia.
- Pryteria costata*, Möschl. Verh. zool.-bot. Ges. Wien, xxxii. p. 336, pl. 18. f. 27 (1882); Kirby, Cat. Het. p. 172. ? *Automolis*. Surinam.
- Purcius plectoides*, Maass. Stübel's Reisen S. Amer., Lep. pp. 42, 131, pl. 5. f. 2 (1890); Kirby, Cat. Het. p. 906. ? *Paracles*. Colombia.
- Robinsonia dewitzi*, Gundl. Ent. Cuba, Lep. i. p. 265 (1881); Kirby, Cat. Het. p. 909. ? Variety of *R. formosa*, Grote. Cuba.
- Sciatta inconcisa*, Wlk. Proc. N. H. Soc. Glasg. i. p. 338 (1869); Kirby, Cat. Het. p. 233. Type lost. Congo.
- Sontia aliena*, Maass. Stübel's Reisen S. Amer., Lep. pp. 17, 130, pl. 4. f. 26 (1890); Kirby, Cat. Het. p. 905. ? *Apistotia*. Colombia.
- Spilosoma fusifrons*, Wlk. xxxi. 295 (1864); Kirby, Cat. Het. p. 228. Type lost. S. India.
- „ *puella*, Staud. Stett. ent. Zeit. xlvi. p. 85 (1887); Kirby, Cat. Het. p. 246. Margelan.

Family AGARISTIDÆ.

Proboscis fully developed; palpi upturned and well developed, the 3rd joint usually naked and porrect; frons with a rounded, conical, or corneous process; antennæ cylindrical, almost simple, with slight bristles at the joints, not ciliated, and more or less distinctly dilated towards extremity. Ocelli present; eyes sometimes hairy; tibial spurs well developed, the tibiæ rarely spined; the male claspers often very large; wings large and strongly formed. Fore wing with vein 1*a* separate from 1*b*; 1*c* absent; 5 from or from close to angle of cell; the areole present in nearly all the genera. Hind wing with vein 1*a* present; 1*c* absent; 5 obsolescent from angle of discocellulars except in *Fleta*, which has it from just below the angle; 6, 7 from upper angle or shortly stalked; 8 free at base, then bent downwards to anastomose with the cell at a point only, except in *Pseudospiris* where it anastomoses with the cell to beyond middle. All the species have silvery blue patches of scales on the fore wing, except *Asteropetes*, *Arrothia*, *Euschiropterus walkeri*, and a few other species.

The *Agaristidæ* are a development from the subfamily *Caradriinæ* of the *Noctuidæ*, in which they are closely related to *Eudryas*, *Ovios*, *Rhosus*, *Aucula*, and from which they only differ in the form of the antennæ, which seems to be correlated with their day-flying habits. The genus *Dahlia*, Pag., from N. Guinea, closely allied to *Thermesia*, has however also developed an antenna dilated towards the extremity and formed as in the *Hesperiadæ*, but ciliated; in it vein 5 of the hind wing is fully developed from just below the angle of discocellulars.

The larvæ have all the prolegs present; somite 11 enlarged; the tubercles as in the *Noctuidæ*, low, conoidal, smooth, each bearing a single hair; tubercle iv. small, rather behind and below the spiracle, no other hairs; tubercle i. anterior, subdorsal; ii. posterior, more nearly lateral; iii. lateral, above spiracle; iv. stigmatal, posterior; v. anterior and vi. posterior, inferior, subventral; vii. as three setæ in a triangle on the leg-plate; viii. near medioventral line.

The pupa naked.

PHYLOGENY OF THE AGARISTIDÆ.

Asteropetes.

Hecatesia, Ægocera, Parægocera.

Xanthospilopteryx, Polacanthopoda, Arctiopais, Mimeusemia, Schausia, Lophonotidia, Copidryas, Euschiropterus.

Comocerus.

Rothia, Veymeria, Arrothia.

Tuerta, Syfania, Pseudalypia.

Cruria.

Eutrichopidia.

Hespagarista, Alypia, Massaga.

Agarista, Argyrolepida, Phalenoides, Pais, Omphaloceps, Alypiodes, Massagidia, Parothria.

Chelonomorpha, Crinocula, Crinala.

Schalifrontia, Othria.

Eusemia, Exsula, Fleta, Immetalia, Burgena.

Diamuna, Seirocastnia, Phasidia.

Scrobigeria.

Ophthalmis.

Phasis.

Longicella.

Key to the Genera.

- A. Hind wing with vein 8 anastomosing with the cell to near extremity PSEUDOSPIRIS, p. 589.
- B. Hind wing with vein 8 anastomosing with the cell near base only.
- a.* Fore wing with veins 7, 8, 9, 10 stalked.
- a*¹. Palpi with the 3rd joint long and naked. EUSEMIA, p. 520.
- b*¹. Palpi with the 3rd joint short and clothed with hair PAROTHRIA, p. 654.
- b.* Fore wing with veins 9, 10 anastomosing with 8 to form the areole*.
- a*¹. Hind tibiæ fringed with rough hair above.
- a*². Fore wing with vein 6 from the areole. EUSCHIROPTERUS, p. 619.
- b*². Fore wing with vein 6 from the cell.
- a*³. Abdomen dorsally clothed with rough hair.
- a*⁴. Palpi with the 3rd joint long and naked; fore wing with vein 5 from close to angle of cell COMOCRUS, p. 544.
- b*⁴. Palpi with the 3rd joint short and roughly scaled; fore wing with vein 5 from above angle of cell OTHRIA, p. 655.
- b*³. Abdomen dorsally smoothly scaled.
- a*⁴. Fore wing with the areole minute, vein 7 from beyond it PHASIDIA, p. 659.
- b*⁴. Fore wing with the areole large, vein 7 from its extremity.
- a*⁵. Frons with truncate conical prominence with raised rim at extremity XANTHOSPILOPTERYX, p. 561.
- b*⁵. Frons without prominence CRINALA, p. 534.
- b*¹. Hind tibiæ smoothly scaled.
- a*². Frons with truncate prominence with raised rim at extremity.
- a*³. Eyes hairy CHELONOMORPHA, p. 528.
- b*³. Eyes smooth.
- a*⁴. Fore wing with vein 3 from close to angle of cell. MASSAGA, p. 642.
- b*⁴. Fore wing with vein 3 from well before angle of cell..... CRURIA, p. 546.
- b*². Frons with rounded prominence.
- a*³. Eyes hairy.
- a*⁴. Fore wing with vein 2 from towards angle of cell CRINOCULA, p. 530.
- b*⁴. Fore wing with vein 2 from long before angle of cell EXSULA, p. 530.
- b*³. Eyes smooth.
- a*⁴. Fore wing with vein 3 from close to angle of cell.
- a*⁵. Fore wing with vein 2 from towards angle of cell.
- a*⁶. Palpi fringed with long hair in front; fore wing with the areole minute FLETA, p. 532.

* The areole sometimes absent in *Fleta moorei*.

- δ^6 . Palpi smoothly scaled; fore wing with the areole well developed IMMETALIA, p. 534.
 δ^5 . Fore wing with vein 2 from long before angle of cell BURGANA, p. 538.
 δ^4 . Fore wing with vein 3 from well before angle of cell SCROBIGERA, p. 540.
 c. Fore wing with vein 9 from 10 anastomosing with 8 to form the areole*.
 a^1 . Eyes hairy.
 a^2 . Frons with truncate conical prominence with raised rim at extremity EUTRICHOPIDIA, p. 554.
 b^2 . Frons with a three-grooved spine ending in a minute fork SCHALIFRONTIA, p. 654.
 δ^1 . Eyes smooth.
 a^2 . Hind tibiæ spined.
 a^3 . Frons with truncate conical prominence with raised rim at extremity. SYFANIA, p. 632.
 b^3 . Frons with rounded prominence ... POLACANTHOPODA, p. 573.
 δ^2 . Hind tibiæ not spined.
 a^3 . Abdomen with dorsal crests on basal segments.
 a^4 . Frons with flattened tridentate process COPIDRYAS, p. 618.
 b^4 . Frons with somewhat triangular pointed prominence.
 a^5 . Palpi with the 3rd joint naked.
 a^6 . Head and thorax clothed with long hair ASTEROPETES, p. 605.
 δ^6 . Head and thorax smoothly scaled PARÆGOCERA, p. 606.
 δ^5 . Palpi with the 3rd joint clothed with rough hair LOPHONOTIDIA, p. 617.
 c^4 . Frons with truncate conical prominence with raised rim at extremity.
 a^5 . Palpi with the 3rd joint long and usually naked.
 a^6 . Palpi with the hair at extremity of 2nd joint long ÆGOCERA, p. 595.
 δ^6 . Palpi evenly fringed with hair in front.
 a^7 . Abdomen with long lateral tufts of hair on terminal segments HECATESIA, p. 593.
 b^7 . Abdomen without long lateral tufts of hair on terminal segments MIMEUSEMIA, p. 607.
 σ^5 . Palpi with the 3rd joint short and roughly scaled.
 a^6 . Antennæ dilated into a knob at extremity SCHAUSIA, p. 616.
 b^6 . Antennæ slightly dilated towards extremity.
 a^7 . Hind tarsi with the 1st two joints fringed with hair METAGARISTA, p. 591.
 b^7 . Hind tarsi naked TUERTA, p. 622.
 d^4 . Frons with rounded prominence. OMPHALOCEPS, p. 628.

* In one specimen of *Eutrichopidia latina* and in the males of *Hecatesia* vein 10 also anastomoses with 8.

- ♂³. Abdomen without dorsal crests except sometimes on 1st segment.
- α⁴. Frons with truncate conical prominence with raised rim at extremity.
- α⁵. Hind tibiæ fringed with rough hair above.
- α⁶. Fore wing with vein 5 from near angle of cell.
- α⁷. Palpi with the 3rd joint almost smooth and somewhat porrect.
- α⁸. Antennæ strongly dilated towards extremity.
- α⁹. Fore tibiæ fringed with long hair on outer side ARCTIOPAIS, p. 586.
- β⁹. Fore tibiæ not fringed with long hair on outer side ROTHIA, p. 574.
- β⁸. Antennæ slightly dilated towards extremity.
- α⁹. Palpi with the hair at extremity of 2nd joint long ... CHARILINA, p. 587.
- β⁹. Palpi with the 2nd joint evenly fringed with long hair PHALENOIDES, p. 555.
- α⁹. Palpi with the 2nd joint nearly smoothly scaled VEYMERIA, p. 584.
- β⁷. Palpi with the 3rd joint short and roughly scaled.
- α⁸. Antennæ strongly dilated towards extremity.
- α⁹. Fore and mid tibiæ strongly fringed with hair on outer side ALYPIA, p. 635.
- β⁹. Fore and mid tibiæ slightly fringed with hair on outer side.
- α¹⁰. Antennæ hardly tapering to extremity; abdomen clothed with rough hair . HESPAGARISTA, p. 629.
- β¹⁰. Antennæ tapering to extremity; abdomen nearly smoothly scaled PAIS, p. 590.
- β⁸. Antennæ slightly dilated towards extremity.
- α⁹. Fore tibiæ fringed with long hair on outer side DIAMUNA, p. 651.
- β⁹. Fore tibiæ fringed with short hair on outer side SEIROCASTNIA, p. 656.
- β⁶. Fore wing with vein 5 from well above angle of cell, the discocellulars incurved above it. MASSAGIDIA, p. 644.
- β⁵. Hind tibiæ smoothly scaled.
- α⁶. Hind wing with the termen sinuous and excised between veins 4 and 6 AGARISTA, p. 548.
- β⁶. Hind wing with the termen evenly rounded.
- α⁷. Hind wing with vein 2 from towards angle of cell, 3 from before angle..... PHASIS, p. 660.

- b⁷. Hind wing with vein 2 from long before angle of cell, 3 from angle ALYPIODES, p. 641.
 b⁴. Frons with rounded or somewhat pointed prominence.
 a⁵. Abdomen, pectus, and femora clothed with long hair ARGYROLEPIDIA, p. 550.
 b⁵. Abdomen, pectus, and femora nearly smoothly scaled.
 a⁶. Both wings with vein 3 from or from close to angle of cell ... OPHTHALMIS, p. 645.
 b⁶. Both wings with vein 3 from well before angle of cell LONGICELLA, p. 661.
 c⁴. Frons with long corneous spine.
 a⁵. Frons with the spine tridentate. PAIDA, p. 588.
 b⁵. Frons with the spine simple, truncate ARROTHIA, p. 585.
 d⁴. Frons with triangular corneous process notched at sides PSEUDALYPIA, p. 634.

Genus EUSEMIA.

	Type.
<i>Eusemia</i> , Dalm. Mon. Castniæ, p. 26 (1825)	<i>lectrix</i> .
<i>Episteme</i> , Hübn. Verz. p. 180 (1827)	<i>lectrix</i> .

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd long, naked, porrect; frons with truncate prominence, with raised rim in front; antennæ almost simple, distinctly dilated before apex; tibiæ smoothly scaled; abdomen of male with the claspers large. Fore wing with veins 3 and 5 from close to angle of cell; 6 from just below upper angle; 7, 8, 9, 10 stalked, 10 from beyond 7; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 shortly stalked or from upper angle. Abdomen of male with protrusible lateral tufts of long hair from 4th segment.

A. Hind wing orange or red.

- a. Patagia without yellow patches.
 a¹. Tegulæ and patagia with small yellow spots *connexa*.
 b¹. Tegulæ and patagia with small white spots.
 a². Hind wing with the terminal band excised and narrow on apical area.
 a³. Both wings with more or less developed sub-terminal spots *vetula*.
 b³. Hind wing without subterminal spots *conspicua*.
 b². Hind wing with the terminal band expanding greatly on apical area.
 a³. Fore wing with elongate white postmedial spots and no subterminal spots *bisma*.
 b³. Fore wing with one or two yellow spots beyond the cell and a subterminal series of white spots *latimargo*.
 b. Patagia with yellow patches.
 a¹. Hind wing with the terminal black band not expanding between veins 2 and 4.
 a². Abdomen with the extremity of anal tuft orange. *maculatrix*.
 b². Abdomen with the extremity of anal tuft black ... *nipalensis*.
 b¹. Hind wing with the terminal black band expanding between veins 2 and 4 *lectrix*.

B. Hind wing black, usually with orange-red spots near tornus.

a. Fore wing with the subterminal series of spots curved.

a¹. Abdomen with dorsal orange bands; hind wing with two orange spots above tornus *adulatrix*.

b¹. Abdomen without dorsal orange bands.

a². Both wings with the white spots dentate towards costa; hind wing with two orange spots above tornus *sumbana*.

b². Both wings with the white spots towards costa punctiform; hind wing with orange point below vein 2 *nigripennis*.

b. Fore wing with subterminal series of obliquely-placed white points *negrita*.

1. *Eusemia connexa*. (Plate LI. fig. 4.)

Eusemia connexa, Wlk. vii. 1773 (1856); Kirby, Cat. Het. p. 27.

Black; 1st and 2nd joints of palpi, sides of frons, basal joint of antennæ, tegulæ, and shoulders with pale yellow spots; a yellow rim behind eyes; pectus with yellow hair; fore coxæ yellow in front; abdomen orange, banded with black. Fore wing with yellow point below base of costa; an antemedial spot in cell; an oblique bar across middle of cell; a spot below base of vein 2; obliquely placed spots beyond upper and lower angles of cell; a curved subterminal series of small spots and a larger spot above tornus. Hind wing orange-scarlet; the base black; the costa black, expanding into a spot at upper angle of cell; a large spot beyond lower angle connected with inner margin by an irregular band and by a streak on vein 2 with the terminal black band, which expands widely at costa and less so above vein 5, then sinuous and ending in a point at tornus, usually with a small yellow spot on it below apex.

Hab. JAVA (*Horsfield*), 4 ♂, 4 ♀, type. *Exp.*, ♂ 52, ♀ 60 millim.

2. *Eusemia vetula*.

Heraclia vetula, Geyer, Zutr. Ex. Schmett. iv. p. 17, ff. 657, 658 (1832); Hmps. Moths Ind. ii. p. 154; Kirby, Cat. Het. p. 27.

Black; 1st and 2nd joints of palpi at extremity, sides of frons, basal joint of antennæ, tegulæ, and shoulders with white spots; a white rim behind eyes; abdomen orange, banded with black. Fore wing with bluish-white marks below costa near base and before middle; a buff-coloured spot in middle of cell conjoined to or separate from a spot below the cell and rather beyond it; an oblique irregular band from below costa just beyond the cell to vein 2, sometimes interrupted in discal fold, where it is bent outwards or reduced to small spots; a subterminal series of dentate spots between veins 8 and 2 and two others above inner margin. Hind wing orange-red; the base black; the costal area black, expanding into a spot at upper angle of cell; a large black spot

beyond lower angle of cell, connected with inner margin by an irregular band and by a streak on vein 2 with the terminal black band which expands widely at costa and less so above vein 5, then sinuous and ending in a point at tornus with a series of six or less spots on it, the largest above vein 6.

Hab. JAVA (*Horsfield*), 3 ♂, 3 ♀. *Exp.*, ♂ 68, ♀ 76 millim.

Subsp. 1. *fasciatrix*, Westw. Cab. Or. Ent. p. 67 (1848); Hmps. Moths Ind. ii. p. 153; Kirby, Cat. Het. p. 27.

Eusemia bijugata, Wlk. Journ. Linn. Soc., Zool. vi. p. 85 (1862).

Eusemia communicans, Wlk. xxxi. 50 (1864); Kirby, Cat. Het. p. 27.

Eusemia darocana, Druce, A. M. N. H. (6) xiv. p. 23 (1894).

The subterminal spots of both wings white.

Hab. ASSAM, type† ♀ in Mus. Oxon.; BURMA, Tenasserim, Dawnat Hills (*De Nicéville*), 1 ♂, 1 ♀; SALANGA I., 1 ♀; PENANG (*Ridley*), 1 ♂, 3 ♀; CAMBODIA, type† ♀ *communicans* in Mus. Oxon.; PHILIPPINES; BORNEO, Sarawak (*Wallace, Bartlett*), 3 ♂, 3 ♀; NIAS I., 1 ♂.

Subsp. 2. *communis*, Butl. A. M. N. H. (4) xv. p. 140, pl. 13. f. 1 (1875); Kirby, Cat. Het. p. 27.

Fore wing with the antemedial and postmedial spots also white or ochreous-white.

Hab. ASSAM, Khâsis, 3 ♂, 5 ♀, type; CACHAR, 2 ♂, 1 ♀.

3. *Eusemia conspiciua*.

Episteme conspiciua, Roths. Nov. Zool. iii. p. 29, pl. xv. f. 26 (1896).

♀. Black; 1st and 2nd joints of palpi, sides of frons, basal joint of antennæ, back of head, tegulæ, and patagia with yellowish points; a yellow rim behind eyes; pectus with the hair yellow; coxæ, the hair on femora and inner side of spurs yellowish; abdomen orange, with black bands narrow on ventral surface. Fore wing with some blue scales near base below the costa and before middle below costa and above vein 1; a narrow obsolescent yellow bar across middle of cell; a broad oblique rather irregular postmedial yellow band from below costa to below vein 2; a spot above vein 1 and a yellow streak below it near tornus. Hind wing scarlet; the base black; the costa black except at base; a black spot at upper angle of cell and a broad band from just beyond lower angle to inner margin, connected with the terminal band by streaks on veins 2 and 1; the terminal band irregularly dentate on inner side and narrowing to tornus. Underside of fore wing with greenish streak below basal half of costa, a spot in cell before middle, and the bar well developed.

Hab. BORNEO, 1 ♂, 1 ♀, Sandakan (*Pryer*), 1 ♀, Kina Balu, 1 ♀. *Exp.* 90–100 millim.

Subsp. 1. *sumatrana*, Roths. Nov. Zool. vi. p. 70 (1899).

♀. Mesothorax with the spots larger, bluish. Fore wing with the basal blue spots larger; a small yellow spot in base of cell; the bar across middle of cell broader and extending to below costa,

with a triangular patch below it, its inner edge concave; a subterminal series of eight white points, the lowest replacing the yellow spot above vein 1.

Hab. W. SUMATRA, Padang, Sidempoean (*Ericsson*), type † ♀ in Coll. Rothschild.

4. *Eusemia bisma*. (Plate LI. fig. 13.)

Eusemia bisma, Moore, Lep. E. I. C. p. 287 (1859); Kirby, Cat. Het. p. 27.
Eusemia lambertiana, Boisd. Rev. Zool. (3) ii. p. 83 (1874).

Black; 1st and 2nd joints of palpi, sides of frons, tegulæ, patagia, and prothorax with white points; a white rim behind eyes; pectus with yellow hair; fore coxæ yellow in front; abdomen orange-yellow, with broad dorsal black bands and slight ventral lines. Fore wing with pale bluish subbasal band; an antemedial spot below costa and another above vein 1; medial spots below costa and on vein 1; an antemedial orange point in cell; a quadrate spot in middle of cell, with a slight spot or streak above it and a somewhat triangular spot below base of vein 2; a curved postmedial series of elongate white spots between veins 8 and 1. Hind wing scarlet; the base black; the costa black, expanding into a spot at upper angle of cell; three large conjoined spots between lower angle of cell and inner margin, connected with the terminal black band by streaks on veins 2 and 1; the terminal band with waved inner edge expanding widely on apical area, narrowing to a point at tornus, and usually with white spots on it above veins 2, 3, and 6.

Hab. SUMATRA (*De Nicéville*), 1 ♀; JAVA (*Horsfield*), 4 ♂, 4 ♀, type. *Exp.*, ♂ 82, ♀ 88 millim.

Larva. Moore, Lep. E. I. C. p. 287, pl. xiii. f. 1.

Black, with sparse pale hair arising from deep black tubercles; yellow intersegmental bands; head and legs deep black. Food-plant, *Dioscorea oppositifolia*.

5. *Eusemia latimargo*.

Eusemia latimargo, Hmps. Ill. Het. B. M. viii. p. 45, pl. 139. f. 24 (1891); id. Moths Ind. ii. p. 153; Kirby, Cat. Het. p. 27.

Black; 1st and 2nd joints of palpi, sides of frons, basal joint of antennæ, tegulæ, and mesothorax with white points; patagia with oblique white stripe; a white rim behind eyes; fore coxæ orange in front, the hair on mid and hind coxæ orange; abdomen orange-red, with dorsal black bands and lateral and ventral series of spots. Fore wing with two blue spots below base of costa and two above vein 1; a quadrate pale yellow patch in middle of cell with a streak above it, and another patch below base of vein 2; two or three small spots often present beyond upper angle of cell and two beyond lower angle; a curved subterminal series of dentate white spots. Hind wing scarlet; the base black; the costal area black, emitting a triangular spot at upper angle of cell; a band formed of two

large conjoined spots between lower angle of cell and inner margin, connected by streaks on veins 2 and 1 with the terminal band which expands very widely on apical area down to vein 4 and narrows to a point at tornus; a white spot on it above vein 6 and usually another above vein 3.

Hab. MALABAR, Cannanore, 2 ♂; NILGIRIS, W. slopes (*Hampson*), 1 ♂, 2 ♀ type; TRAVANCORE, Ashambo Hills, Chimangi (*Fergusson*), 2 ♀. *Exp.* 82-90 millim.

Subsp. 1. Hind wing orange.

Hab. SHEVAROY HILLS (*Morris*), 2 ♀.

6. *Eusemia maculatrix*.

Eusemia maculatrix, Westw. Nat. Libr., Exot. Moths, v. p. 88, pl. 2. f. 3 (1841); Kirby, Cat. Het. p. 26.

Eusemia irenea, Boisd. Rev. Zool. (3) ii. p. 84 (1874); Hmps. Moths Ind. ii. p. 153; Kirby, Cat. Het. p. 27.

Eusemia distincta, Butl. A. M. N. H. (4) xv. p. 140 (1875); id. Ill. Het. B. M. v. p. 17, pl. 82. f. 3; Kirby, Cat. Het. p. 27.

Black; 1st and 2nd joints of palpi, sides of frons, and basal joint of antennæ with white points; a white rim behind eyes; tegulæ sometimes with minute white points; patagia with large yellow patches; coxæ with the hair orange; abdomen orange, with dorsal black bands and lateral and ventral series of spots. Fore wing with two blue spots below base of costa and two on vein 1; a small antemedial white spot in cell; a quadrate white spot in middle of cell with two streaks above it and a spot below base of vein 2; three small spots beyond upper angle of cell and one or two beyond lower angle; a curved subterminal series of small spots, the spots above veins 2 and 3 sometimes absent. Hind wing orange; the base black; the costal area black; a rounded spot at upper angle of cell, often conjoined to the costal fascia; a band formed by two conjoined spots between lower angle of cell and inner margin, connected by streaks on veins 2 and 1 with the terminal band which expands very widely on apical area down to vein 5 and narrows to a point at tornus, with a white spot on it above vein 6, often with smaller spots between it and vein 2.

Ab. 1. Fore wing with the antemedial spot in cell and the upper part of the medial spot yellow.

Ab. 2. *distincta*. Fore wing with both medial spots yellow.

Ab. 3. Fore wing with the spots beyond upper angle of cell also yellow.

Ab. 4. Fore wing with the spots beyond lower angle of cell also yellow.

Hab. W. CHINA, Omei-shan, 1 ♀, Moupin (*Krickeldorf*), 2 ♂; ASSAM, Khâsis (*Godwin-Austen*), 1 ♂, 3 ♀, type *distincta*. *Exp.* 66-94 millim.

7. *Eusemia nipalensis*.

Eusemia maculatrix, Westw. Cab. Or. Ent. p. 67, pl. 33. f. 1 (1848), nec Westw. 1841; Hmps. Moths Ind. ii. p. 153.

Eusemia nipalensis, Butl. A. M. N. H. (4) xv. p. 140 (1875); Kirby, Cat. Het. p. 27.

Eusemia dives, Butl. Ill. Het. B. M. v. p. 18, pl. 82. f. 4 (1881); Kirby, Cat. Het. p. 27.

Eusemia westwoodi, Kirby, Allen's Nat. Libr. iii. p. 65 (1897).

Black; 1st and 2nd joints of palpi, sides of frons, and basal joint of antennæ with white points; a white rim behind eyes; tegulæ with yellow spots; patagia with oblique stripes; coxæ and femora with orange hair; abdomen orange, with dorsal black bands and lateral and ventral spots, the extremity black. Fore wing with two blue spots below base of costa and two above vein 1; a large yellow spot in middle of cell and another below base of vein 2; three small conjoined spots beyond upper angle of cell and three beyond lower angle; a curved subterminal series of dentate white spots, the spot above vein 2 sometimes absent. Hind wing orange; the base black; the costal area black, emitting a triangular spot at upper angle of cell; a band composed of two conjoined spots from lower angle of cell to inner margin, connected by streaks on veins 1 and 2 with the terminal band which expands very widely on apical area down to vein 4 and narrows to a point at tornus; a white subapical spot often with others above and below it, and others above veins 2 and 3.

Ab. 1. Fore wing with the medial and postmedial spots white.

Ab. 2. Hind wing scarlet.

Hab. N.W. HIMALAYAS, 1 ♀; NEPAL (*Hardwicke*), 2 ♂ type; SIKHIM (*Fotheringham*), 4 ♂, 1 ♀, type *dives*; ASSAM, Shillong (*Rawlings*), 1 ♂, ab. 1, Silhet, 2 ♂; BURMA, Tenasserim, Thoungyen Valley (*Bingham*), 1 ♂. *Exp.* 74–90 millim. Type † ♂ in Mus. Oxon.

8. *Eusemia lectrix*.

Noctua lectrix, Linn. Mus. Ulr. p. 389 (1764); Cram. Pap. Exot. ii. pl. 192, C; Don, Ins. China, pl. 43. f. 2; Kirby, Cat. Het. p. 26.

Black; 1st and 2nd joints of palpi, sides of frons, and basal joint of antennæ with white points; tegulæ with pale yellow spots; patagia with yellow patches; a white rim behind eyes; fore coxæ orange in front; abdomen banded with orange. Fore wing with two pale blue spots below base of costa and two on vein 1; a small yellow antemedial spot in cell; a quadrate spot in middle of cell, with two short streaks above it, and a quadrate spot below base of vein 2; three small spots beyond upper angle of cell, the upper one linear, and two beyond lower angle; a curved subterminal series of small white spots, the spot above vein 2 often absent. Hind wing with orange antemedial band, not reaching costa and enclosing an elliptical black spot at upper angle of cell, where it is confluent with a double dentate spot beyond the cell; two spots

beyond lower angle of cell, and two above and below vein 1 towards tornus; subterminal white spots above veins 2 and 3, and above and below vein 6.

Hab. W. CHINA, Omei-shan, 3 ♂, 1 ♀, Chang-yang (*Pratt*), 2 ♂, Kwei-chow, 2 ♀, Ta-chien-lu (*Pratt*), 1 ♂, Chia-kow-ho (*Pratt*), 1 ♀, Kia-ting-fu, 1 ♂, 1 ♀, Moupin (*Krickeldorf*), 1 ♂, 1 ♀; FORMOSA, Lak-ku-li, 1 ♂. *Exp.* 64-92 millim.

9. *Eusemia adulatrix*.

Eusemia adulatrix, Koll. Hugel's Kashmir, iv. p. 464, pl. 20. f. 1 (1844); Hmps. Moths Ind. ii. p. 152; Kirby, Cat. Het. p. 26.

Eusemia bellatrix, Westw. Cab. Or. Ent. p. 67, pl. 33. f. 2 (1848); Kirby, Cat. Het. p. 26.

Eusemia sectinotis, Butl. Ent. Mo. Mag. xii. p. 117 (1875); id. Ill. Het. B. M. v. p. 18, pl. 82. f. 5; Kirby, Cat. Het. p. 26.

Eusemia contracta, Butl. Ent. Mo. Mag. xii. p. 117 (1875); Kirby, Cat. Het. p. 26.

Eusemia afflicta, Butl. Ent. Mo. Mag. xii. p. 118 (1875); Kirby, Cat. Het. pl. 26.

Eusemia simplex, Butl. Ent. Mo. Mag. xii. p. 118 (1875); Kirby, Cat. Het. p. 26.



Fig. 230.—*Eusemia adulatrix*, ♀. 1. (From Moths Ind. vol. ii.)

Black; 1st and 2nd joints of palpi, sides of frons, and basal joint of antennæ with white points; a white rim behind eyes; tegulæ, patagia, and prothorax with yellow patches; abdomen banded with orange-red the dorsal surface having three to six bands, those towards base being reduced, and the ventral surface with bands on all but 1st segment. Fore wing with two or three blue-white spots on basal area below costa, and subbasal and antemedial lines from cell to a streak above inner margin, these markings often much reduced; a large quadrate yellow patch in middle of cell extending to just above subcostal nervure, and a similar patch below the cell extending to just above base of vein 2; spots beyond the cell

above veins 3, 4, 5, and 6, and two streaks on costa; a postmedial blue mark on vein 1 often present; a curved subterminal series of small white spots, the spot above vein 4 absent and often those towards tornus. Hind wing with postmedial white spots above veins 6, 3, and 2, and orange-red spots on each side of vein 1 towards tornus.

Ab. 1. *afflicta*. Fore wing with the postmedial spots reduced in size.

Ab. 2. *sectinotis*. Fore wing with the medial patches reduced in size.

Ab. 3. *contracta*. Fore wing with both medial and postmedial markings reduced.

Ab. 4. *simplex*. Fore wing with the medial band narrow, the postmedial spots absent.

Ab. 5. Abdomen with dorsal orange tuft on basal segment; hind wing with some orange markings on basal area.—Kwei-chow.

Ab. 6. The spots on thorax and the medial and postmedial spots on fore wing whitish.—Malabar.

Hab. CHINA, Kwei-chow, 1 ♀, Omei-shan, 2 ♂, Moupin (*Krickeldorf*), 1 ♀; KASHMIR, Rajaori (*Leech*), 1 ♂; KULU, Sultanpore (*G. Young*), 1 ♂; PUNJAB, Mussoorie, 2 ♂, 3 ♀, types *contracta* and *sectinotis*; NEPAL (*Hardwicke*), 1 ♂; CACHAR, 1 ♂, 1 ♀; BOMBAY, Matheran (*Leith*), 1 ♀; KANARA (*Ward*), 2 ♂, type *simplex*; MALABAR, 1 ♂, 5 ♀; NILGIRIS (*Hampson*), 3 ♀; TRAVANCORE, Trevandrum (*Fergusson*), 1 ♂; BURMA, Moulmein (*Clerk*), 1 ♀, Toungoo (*De Nicéville*), 2 ♂, Tenasserim, Dawnat Hills (*De Nicéville*), 2 ♂, 2 ♀. *Exp.* 66–80 millim. Type † ♂ *bellatrix* in Mus. Oxon.

*10. *Eusemia sumbana*. (Plate LI. fig. 1.)

Episteme sumbana, Roths. Nov. Zool. iv. p. 310 (1897).

♂. Black; 1st and 2nd joints of palpi, and sides of frons above with white points; tegulæ and shoulders with pale yellow spots; abdomen with lateral spots, and ventral orange-red bands on last three segments. Fore wing with oblique subbasal and antemedial whitish-blue much-interrupted lines; quadrate pale yellow patches in end of cell and below base of vein 2, and a point above base of vein 2; a series of five small spots just beyond the cell; a curved series of seven small white subterminal spots, the three towards costa elongate. Hind wing with oblique series of six small elongate white spots just beyond the cell, and two orange-red spots above tornus; the basal half of wing with a reddish tinge seen through the black.

Hab. SUMBA (*Everett*), type † ♂ in Coll. Rothschild. *Exp.* 74 millim.

11. *Eusemia nigripennis*.

Eusemia nigripennis, Butl. A. M. N. H. (4) xv. p. 140 (1875); Moore, Lep. Ceyl. ii. p. 34, pl. 94. f. 3; Hmps. Moths Ind. ii. p. 152; Kirby, Cat. Het. p. 26.

♂. Black; 1st and 2nd joints of palpi, sides of frons, and basal joint of antennæ with white points; a white rim behind eyes; tegulæ and shoulders with yellow spots; abdomen with ventral orange bands except at base. Fore wing with pale blue subbasal spots below costa and cell, antemedial spots below costa and cell, and oblique bar across vein 1; a quadrate yellow patch in middle of cell extending to below costa, and conjoined to a patch below the cell extending to above base of vein 1; small spots beyond the cell above veins 3, 4, 5, and 6, and two slight streaks below costa; a curved subterminal series of white points, with small blue spots below costa and above inner margin. Hind wing with obliquely curved postmedial series of small bluish-white spots from costa to vein 2, and an orange spot below vein 2.

♀. With orange rings on two terminal segments of abdomen.

Hab. CEYLON (*Templeton, Green*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 76, ♀ 80 millim.

*12. *Eusemia negrita*. (Plate LI. fig. 18.)

Eusemia negrita, Hmps. *Moths Ind.* ii. p. 151 (1894).

♂. Black; palpi with some white at sides; patagia with yellow patches; coxæ with orange hair; fore and mid tibiæ and tarsi with some white in front; abdomen with orange-red bands on 2nd, 3rd, and terminal segments, the 1st incomplete dorsally, the ventral surface orange-red with black bands. Fore wing with some bluish-white suffusion at base and three subbasal spots; a broad oblique antemedial yellow band from below costa to vein 1, its edges irregular and its lower extremity rounded; traces of a white point beyond upper angle of cell, and a more distinct point beyond lower angle; five obliquely placed postmedial points from below costa to above vein 3, and traces of a point above vein 1. Hind wing with slight subbasal orange-red streaks in cell, on median nervure, and on inner margin, a subterminal spot above vein 1 and small white spots above veins 6 and 3. Underside of fore wing with the spots beyond the cell and the postmedial spots bluish white and prominent; hind wing with curved postmedial series of six bluish spots.

Hab. BURMA, S. SHAN STATES, Enlay (*Manders*), 1 ♂ type † in Coll. Elwes. *Exp.* 66 millim.

Genus CHELONOMORPHA.

	Type.
<i>Chelonomorpha</i> , Motsch. Ét. Ent. ix. p. 30 (1860)	<i>japona</i> .

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd naked, porrect; frons with truncate conical prominence with raised rim at extremity; eyes somewhat hairy; antennæ almost simple, slightly dilated towards extremity; tibiæ smooth; abdomen of male with protrusible lateral tufts of long hair from base, the claspers small. Fore wing with veins 3 and 5 from close to angle of cell; 6 from just below upper angle; 9, 10 anastomosing with 7, 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

13. *Chelonomorpha japona*.

Chelonomorpha japona, Motsch. Ét. Ent. ix. p. 29 (1860); Kirby, Cat. Het. p. 30.

Eusemia villicoides, Butl. A. M. N. H. (4) xv. p. 141, pl. 13. f. 2 (1875).

Black; sides of palpi with some white hair; vertex of head and tegulæ with white points; patagia yellow; abdomen orange, with dorsal black bands and lateral, sublateral, and ventral black spots. Fore wing with silvery-blue spots below base of costa and cell; an antemedial line, oblique from costa to vein 1 where it is strongly angled; an oblique spot in middle of cell and streaks below it on vein 1; a discoidal band; an oblique postmedial line from vein 3 to inner margin; a pale yellow triangular spot in cell before middle, a broad bar across end of cell, and a somewhat quadrate patch below base of vein 2; somewhat quadrate spots beyond upper and lower angles of cell, varying much in size, and sometimes with indented outer edge; a curved subterminal series of small spots, the spot near tornus larger. Hind wing orange; the base black; the costa black; a spot at upper angle of cell, a large spot beyond lower angle, with a spot below it on inner area, the lower and sometimes also the upper connected by streaks with the terminal band, which expands very widely on apical area, narrows to a point at tornus, and with one to seven yellow spots on it, the spot above vein 6 largest.

Hab. JAPAN, Yezo (*Andrews, Pryer*), 3 ♂, 1 ♀, Nikko (*Maries*), 1 ♂, Tokio (*Fenton*), 1 ♂, Yokohama (*Manley*), 1 ♂, Hakodate (*Andrews*), 6 ♂, 3 ♀, type *villicoides*; W. CHINA, Kiukiang (*Pratt*), 1 ♀. *Exp.*, ♂ 62, ♀ 70 millim.

Subsp. 1. Fore coxæ with whitish hair in front; hind coxæ with orange hair; abdomen without lateral, sublateral, and ventral black spots.

Hab. BURMA, Hsipaw (*De Nicéville*), 1 ♂.

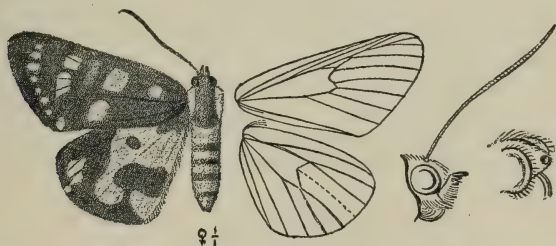


Fig. 231.—*Chelonomorpha austeni*, ♀. †. (From Moths Ind. vol. ii.)

Subsp. 2. *austeni*, Moore, Lep. Atk. p. 11 (1879); Hmps. Moths Ind. ii. p. 154; Kirby, Cat. Het. p. 30.

Fore and hind coxæ with orange hair; abdomen with the lateral, sublateral, and ventral spots small; hind wing with the spots beyond the cell and on inner area conjoined.

Hab. ASSAM, Khâsis, type † ♂ in Coll. Staudinger.

Genus **CRINOCULA**.

Type.

Crinocula, Jord. Nov. Zool. iii. p. 36 (1896) *cinabaluensis*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd short, somewhat porrect; frons rounded; eyes strongly hairy; antennæ almost simple, slightly dilated before extremity; head, thorax, and abdomen clothed with rough hair; tibiæ smoothly scaled; abdomen of male with lateral tufts of long hair from 2nd segment, the claspers large. Fore wing with vein 2 from towards angle of cell; 3 and 5 from near angle; 6 from upper angle; 9, 10 anastomosing with 7, 8 to form a minute areole, rarely absent in female. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

14. *Crinocula cinabaluensis*.*Crinocula kinabaluensis*, Roths. Nov. Zool. iii. p. 36, pl. 14. f. 22 (1896).

♂. Black; head and thorax with some yellow hair, especially on sides of palpi and frons; pectus and legs orange, the latter irrorated with black scales; abdomen orange, with dorsal black stripe and the claspers black. Fore wing with scattered blue scales

Fig. 232.—*Crinocula cinabaluensis*, ♂. ½.

below basal half of costa, along vein 1, as an oblique antemedial line and a discoidal line; a rather irregular oblique orange band beyond the cell from below costa to vein 2. Hind wing with the medial third scarlet from below costa to inner margin, its outer edge incurved below vein 2.

♀. Abdomen wholly orange except at base.

Hab. BORNEO, Kina Balu (*Waterstradt*), 1 ♂, 1 ♀. *Exp.*, ♂ 44, ♀ 52 millim.

Genus **EXSULA**.

Type.

Exsula, Jord. Nov. Zool. iii. p. 35 (1896) *dentatrix*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd well developed, nearly naked and somewhat porrect; frons with slight rounded prominence; eyes somewhat hairy; antennæ almost simple, distinctly dilated towards extremity. Fore wing with vein 2 from long before angle of cell; 3 and 5 from close to angle; 6 from upper angle; 9, 10 anastomosing with 7, 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7

from upper angle; abdomen of male with protrusible lateral tufts of long hair from 4th segment.

- A. Hind wing orange, with black discoidal patch and terminal band *dentatrix*.
 B. Hind wing black, with blue terminal band *victrix*.

15. *Exsula dentatrix*.

Eusemia dentatrix, Westw. Cab. Or. Ent. p. 68, pl. 33. f. 5 (1848); Hmps. Moths Ind. ii. p. 151; Kirby, Cat. Het. p. 27.

♂. Black; palpi with the 1st and 2nd joints orange at sides; neck with orange ring; fore coxæ and fringe on femora orange; abdomen orange banded with black, the base and anal tuft black. Fore wing with brilliant metallic blue spots below costa and above



Fig. 233.—*Exsula dentatrix*, ♂. ½.

vein 1; some blue on discocellulars; the veins of terminal area streaked with blue, expanding to termen; a quadrate medial yellow patch in cell, conjoined to a similar oblique patch below base of vein 2; spots beyond the cell above veins 3, 4, and 6. Hind wing orange; the base black; the costal area black, emitting conjoined spots at upper and lower angles of cell, giving off a short streak on outer side in discal fold; a broad terminal band, its inner edge angled inwards at vein 2, and the veins on it streaked with blue.

♀. Abdomen with the anal tuft orange.

Hab. NEPAL (*Hardwicke*), 1 ♂; SIKHIM (*Lidderdale*), 4 ♂, 5 ♀; ASSAM, Khásis. *Exp.* 76 millim. Type ♂ ♀ in Mus. Oxon.

16. *Exsula victrix*.

Eusemia victrix, Westw. Cab. Or. Ent. pl. 33. f. 3 (1848); Hmps. Moths Ind. ii. p. 150; Kirby, Cat. Het. p. 26.

Eusemia silhetensis, Butl. A. M. N. H. (4) xv. p. 139 (1875); id. Ill. Lep. Het. B. M. v. p. 17, pl. 82. f. 1; Kirby, Cat. Het. p. 26.

Eusemia tyrianthina, Butl. Ent. Mo. Mag. xii. p. 116 (1875); Kirby, Cat. Het. p. 26.

♂. Black; palpi with some orange hair; neck with orange ring; the hair on fore coxæ and femora orange; abdomen tinged with blue, the tufts of hair fulvous, the extremity above and the terminal

half of ventral surface orange, leaving the claspers black. Fore wing with silvery-blue subbasal spots below costa and cell and points at angles of cell; a pale yellow quadrate patch in middle of cell extending almost to costa and conjoined to a similar patch below base of vein 1; a small white spot beyond upper angle of cell, and others between veins 3 and 5; the veins of terminal area streaked with brilliant blue, expanding towards termen and confluent towards apex. Hind wing shot with blue; a broad brilliant blue band on terminal area with dentate inner edge and leaving a sinuous black terminal line.

♀. The terminal segment and anal tuft orange, the former with dorsal black line.

Ab. 1. Fore wing with the spots beyond the cell absent.

(a) *silhetensis*. Fore wing with the medial patches conjoined.

(b) *tyrianthina*. Fore wing with the medial patches separate.

Hab. NEPAL, 1 ♂; SIKHIM (*Fotheringham*), 4 ♂, 2 ♀, type *tyrianthina*; ASSAM, KHÁSIS, 1 ♂, 3 ♀, type *silhetensis*. *Exp.* 66–80 millim.

Subsp. 1. Fore wing with the spots beyond the cell pale yellow, minute.

Hab. BURMA, KHYEN HILLS, 1 ♂, 1 ♀; YUNNAN.

Subsp. 2. *orientalis*, Butl. A. M. N. H. (4) xv. p. 139 (1875); id. Ill. Het.

B. M. v. p. 17, pl. 82. f. 2; Humpsn. Moths Ind. ii. p. 151; Kirby, Cat. Het. p. 26.

Hind wing with the blue subterminal band reduced and narrow; fore wing sometimes with additional white spot beyond the cell above vein 5; abdomen of female without black band on terminal segment.

Hab. N.W. HIMALAYAS, Mussoorie, 1 ♀ type, Garwhal, 1 ♀.

Genus FLETA.

Fleta, Jordan, Nov. Zool. iii. p. 34 (1896) Type. *belangeri*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd moderate, smoothly scaled; frons with small rounded prominence; antennæ almost simple, distinctly dilated before extremity; hind tibiæ with sparse long hairs; abdomen of male with the claspers large. Fore wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 from above angle; 6 from upper angle; 9, 10 anastomosing with 7, 8 to form a very small areole, sometimes absent; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent, typically from just below middle of discocellulars; 6, 7 shortly stalked; male with the costa lobed at base, some long hair in discal fold on upperside.

SECT. I. Hind wing with vein 5 from just below angle of discocellulars.

17. *Fleta belangeri*.

Agarista belangerii, Guér. Belanger's Voy. Ind. Or. p. 506, pl. 5. f. 3 (1834); Kirby, Cat. Het. p. 27.

♂. Black-brown; head and tegulæ with some yellow hair;

pectus and legs with the hair yellow, tibiæ and tarsi irrorated with white; abdomen laterally orange except at base and extremity, the ventral surface yellow. Fore wing with oblique yellow



Fig. 234.—*Fleta belangeri*, ♂. 1.

band just beyond the cell between veins 7 and 2. Hind wing reddish orange, the base and a rather broad terminal band black-brown.

♀. Abdomen wholly suffused with yellow except at base of dorsum.

Hab. SUMATRA (*H. O. Forbes, De Nicéville*), 5 ♂, 2 ♀; JAVA (*Horsfield*), 4 ♂, 2 ♀. *Exp.*, ♂ 50, ♀ 58 millim.

SECT. II. Hind wing with vein 5 from angle of discocellulars; fore wing sometimes with the areole absent.

18. *Fleta moorei*.

Agarista moorei, Feld. Reis. Nov. pl. 107. f. 5 (1874); Kirby, Cat. Het. p. 27.

♂. Deep red-brown; palpi, sides of frons, and tegulæ with some yellowish-white hairs; neck with yellowish ring; pectus with yellow hair; legs with dark and pale scales; abdomen orange-

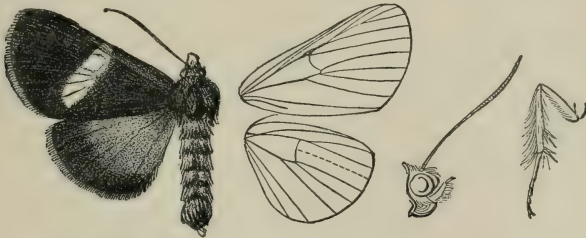


Fig. 235.—*Fleta moorei*, ♂. 1.

yellow, with black-brown dorsal line and anal tuft. Fore wing deep chocolate-brown, with oblique yellow postmedial band from below costa to submedian fold. Hind wing brownish orange-red, the base and terminal area dark brown.

Hab. JAVA, 1 ♂; ? *MOLUCCAS.* *Exp.* 54 millim. Type † in Coll. Rothschild.

The type has vein 11 of fore wing connected with the areole by a bar.

Genus **CRINALA.**

Crinala, Jord. Nov. Zool. iii. p. 35 (1896) Type. *mimetica.*

Proboscis fully developed; palpi upturned, reaching vertex of head, the 3rd joint minute, nearly naked; frons rounded, without prominence; antennæ nearly simple and distinctly dilated towards extremity; mid and hind tibiæ fringed with rough hair above. Fore wing with veins 3 and 5 from close to angle of cell; 6 from below upper angle; 9, 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

*19. *Crinala mimetica.*

Crinala mimetica, Roths. Nov. Zool. iii. p. 36, pl. 14. f. 24 (1896).

♂. Black with a slight bluish shot; palpi orange except 3rd joint; head with some orange hair; back of head and tegulæ orange; coxæ, fore and mid femora, and hair on fore tibiæ orange;

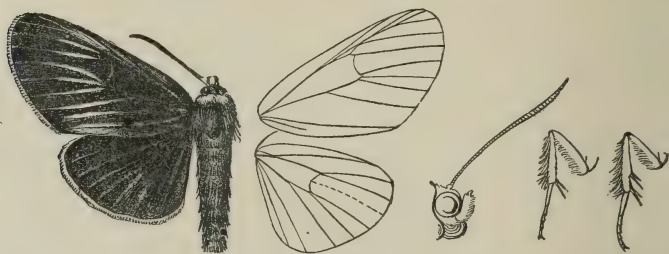


Fig. 236.—*Crinala mimetica*, ♂. }.

abdomen with the ventral surface orange except at base and extremity. Fore wing with silvery-blue spot in end of cell and discoidal bar; the veins of postmedial area streaked with white; cilia white and black. Hind wing with the veins of terminal area very slightly streaked with white; cilia white.

Hab. PHILIPPINES, N. LUZON (*Whitehead*), type † ♂ in Coll. Rothschild. *Exp.* 60 millim.

Genus **IMMETALIA.**

Immetalia, Jord. Nov. Zool. iii. p. 31 (1896) Type. *saturata.*

Proboscis fully developed; palpi with the 2nd joint upturned and roughly scaled, the 3rd long and porrect; frons with rounded prominence; antennæ nearly simple, distinctly dilated towards apex; hind tibiæ with some long hair on outer side towards extremity; claspers of male large. Fore wing with

vein 3 from close to angle of cell; 5 from just above angle; 6 from upper angle; 9, 10 anastomosing with 8 to form an areole; 11 free. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle; male with fold and fringe of long hair on medial part of inner area on upperside.

- A. Hind wing with orange or white markings.
 a. Hind wing with the terminal black band expanding towards tornus *bernsteini*.
 b. Hind wing with the terminal black band narrowing towards tornus.
 a¹. Hind wing with the band extending into the cell *longipalpis*.
 b¹. Hind wing with the band not extending into the cell ... *meecei*.
 B. Hind wing without orange or white markings.
 a. Fore wing with orange band.
 a¹. Fore wing with the band ending on vein 1 long before tornus *saturata*.
 b¹. Fore wing with the band ending on vein 1 above tornus *celebensis*.
 b. Fore wing without orange band *cyanea*.

20. *Immetalia bernsteini*.

Ophthalmis bernsteinii, Voll. Tijds. v. Ent. vi. p. 132, pl. 9. f. 1 (1863); Kirby, Cat. Het. p. 28.
Eusemia josoides, Wlk. xxxi. 54 (1864); Kirby, Cat. Het. p. 28.
Agarista xanthomelas, Boisd. Rev. Zool. (3) ii. p. 101, pl. 8. f. 2 (1874).
Immetalia bernsteini, *angustiplaga*, Roths. Nov. Zool. iii. p. 32 (1896).

Black; palpi mostly orange in front; frons tinged with blue; vertex of head and gulæ largely mixed with orange; claspers of male and anal tuft of female orange except at extremity. Fore wing with streaks of diffused silvery-blue scales above basal half of subcostal nervure and vein 1 and as a bar across end of cell; an oblique orange band with rather sinuous edges from costa to vein 2; cilia tinged with fulvous at apex. Hind wing with broad orange postmedial band from below coxæ to inner margin, with irregular inner edge angled inwards on median nervure.

Ab. 1. *xanthomelas*. Fore wing with the oblique orange band continued to vein 1; hind wing with the band narrowing to inner margin near tornus.

Hab. GILOLO (*Platen*), 2 ♂; MORTY, type *josoides* in Mus. Oxon.; BATCHIAN (*Platen*), 1 ♀, Bouru. *Exp.* 64 millim. Type † ♂ *josoides* in Mus. Oxon.

21. *Immetalia longipalpis*.

Eusemia longipalpis, Kirsch, Mitth. Mus. Dresd. i. p. 130, pl. 7. f. 12 (1877); Kirby, Cat. Het. p. 28.
Agarista tyrianthina, Butl. P. Z. S. 1879, p. 160; Kirby, Cat. Het. p. 23.
Agarista bruijini, Oberth. Ann. Mus. Genov. xv. pl. 4. f. 6 (1880); Kirby, Cat. Het. p. 23.
Eusemia doreyana, Swinh. Cat. Het. Mus. Oxon. p. 164, pl. v. f. 4 (1892).
Agarista cynapes, Druce, A. M. N. H. (6) xiv. p. 22 (1895).
Agarista prochyta, Druce, A. M. N. H. (6) xiv. p. 23 (1895).

♂. Black shot with brilliant blue; the last segment of abdomen

and anal tuft orange. Fore wing with fasciæ of silvery-blue scales above basal half of subcostal nervure and in cell and a patch on discocellulars; a large white patch beyond the cell between veins 6



Fig. 237.—*Immetalia longipalpis*, ♂. †.

and 2, or from 8 to just above inner margin; cilia white at apex. Hind wing with large rounded white patch extending from near base to beyond middle, and from costa to inner margin; cilia white at apex.

♀. *bruijni*=*doreyana*. The bands of both wings white.

Ab. 1. *cynapes*. Fore wing with the band white; hind wing with the band orange.

Ab. 2. *longipalpis*. Fore wing with the band yellow; hind wing with the band orange.

Ab. 3. *prochyta*. Both wings with the band orange.

Hab. DOREY; N. GUINEA, Humboldt Bay (*Doherty*), 1 ♂, 1 ♀, Kapaur (*Doherty*), 1 ♂; NEW IRELAND (*Rev. G. Brown*), 1 ♂ type *tyrianthina*. *Exp.* 50 millim. Type † ♀ *doreyana* in Mus. Oxon.

22. *Immetalia meeki*. (Plate LI. fig. 16.)

Immetalia meeki, Roths. Nov. Zool. iii. p. 32 (1896).

♂. Black shot with blue; palpi with lateral white spot on basal joint; neck with white ring; abdomen with the anal tuft orange. Fore wing with silvery-blue streaks below base of costa and on vein 1, and a spot in end of cell; an obliquely curved rather narrow orange-yellow band just beyond the cell from below the costa to below vein 1, with rather irregular edges and narrowing towards inner margin; cilia white at apex. Hind wing with broad orange postmedial band with waved edges just beyond the cell, extending on inner margin to tornus.

♀. Abdomen with the terminal half tinged with orange; fore wing with the band extending to just below vein 2.

Hab. LOUISIADES, Goodenough I. (*Meek*), 2 ♀; D'ENTRECASTEAUX Is., Fergusson I., 1 ♂, 1 ♀. *Exp.* 58–64 millim.

Subsp. 1. *huonis*, Roths. Nov. Zool. iv. p. 184 (1897).

♂. Fore wing with the band brighter yellow and narrower; hind wing with the band slightly narrower.

♀. Hind wing with the band broader than in male, but narrower than in typical form, especially towards costa.

Hab. GERMAN N. GUINEA, Huon Golfe, Finschafen (*Webster*). Type † in Coll. Rothschild.

*23. *Immetalia saturata*.

Eusemia saturata, Wlk. xxxi. 54 (1864); Swinh. Cat. Het. Mus. Oxon. p. 162, pl. 5. f. 1.

♂. Black-brown strongly shot with blue; abdomen orange at extremity. Fore wing with metallic blue streaks on basal part of subcostal and medial nervures and vein 1; an oblique spot in end of cell; a curved orange band across and beyond end of cell from below costa to above inner margin, narrowing towards extremities and with waved edges; cilia of both wings white at apex.

♀. Fore wing with the band white.

Hab. BOURU, type † ♂ in Mus. Oxon. *Exp.* 60 millim.

Subsp. *doleschalli*, Feld. Reis. Nov. pl. 107. ff. 2, 3 (1874); Kirby, Cat. Het. p. 28.

Fore wing with the band white in male also.

Hab. AMBOINA.

24. *Immetalia celebensis*.

Immetalia celebensis, Roths. Nov. Zool. iii. p. 33 (1896).

Episteme heydeni, Pag. Ent. Nachr. xxii. p. 50 (1896); id. Abh. Senck. Ges. xxiii. p. 431, pl. 19. f. 7.

♀. Black; patagia fringed with white below and with pale yellow lateral patch at base; sides of frons yellowish white; basal joint of antennæ, a ring round neck, and dorsal and subdorsal streaks on thorax yellowish white; pectus with yellowish hair; femora streaked with yellow. Fore wing with oblique silvery-blue subbasal and antemedial lines, a bar across middle of cell and another on discocellulars; a postmedial orange band with waved edges beyond the cell from just below costa to near tornus, its outer edge slightly angled at vein 4; cilia white at apex and tornus. Hind wing with the cilia white.

Hab. S. CELEBES, Samanga (*Fruhstorfer*), 1 ♀. *Exp.* 58 millim.

*25. *Immetalia cyanea*. (Plate LI. fig. 2.)

Immetalia cyanea, Roths. Nov. Zool. iii. p. 33 (1896).

♀. Black shot with brilliant blue; palpi with the 1st and 2nd joints at sides, frons above, and back of head with some yellowish hair; abdomen with the two terminal segments orange-red. Fore wing with streak of silvery-blue scales below basal half of costa; a spot in end of cell, and some scales on discocellulars.

Hab. N. GUINEA, Geelvink Bay, Biak (*Doherty*), type † ♀ in Coll. Rothschild. *Exp.* 56 millim.

Genus **BURGENA.**

<i>Burgena</i> , Wlk. xxxi. 55 (1864)	Type. <i>varia</i> .
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Proboscis fully developed ; palpi upturned, the 2nd joint moderately fringed with hair in front, the 3rd long, naked, somewhat porrect ; frons with rounded prominence ; antennæ nearly simple, distinctly dilated before extremity ; pectus and femora with long hair, the tibiæ smoothly scaled ; male with the claspers moderate. Fore wing narrow ; vein 3 from near angle of cell ; 5 from above angle ; 6 from upper angle ; 9, 10 anastomosing with 8 to form the areole ; 11 from cell. Hind wing with veins 3, 4 from angle of cell ; 5 obsolescent from middle of discocellulars ; 6, 7 from upper angle.

- A. Hind wing with orange band.
 a. Fore wing with whitish or orange streak below base of cell *varia*.
 b. Fore wing without whitish or orange streak below base of cell *splendida*.
 B. Hind wing without orange band.
 a. Fore wing with postmedial greenish band *amæna*.
 b. Fore wing with subbasal greenish band *chalybeata*.

26. *Burgena varia*.

- Damias varia*, Wlk. i. 15 (1854) ; Butl. Ill. Het. B. M. i. p. 11, pl. 4. f. 1 ; Kirby, Cat. Het. p. 31.
Burgena transducta, Wlk. xxxi. 56 (1864) ; Westw. Trans. Linn. Soc., Zool. (2) i. p. 203, pl. 29. f. 21 ; Kirby, Cat. Het. p. 31.
Burgena educta, Wlk. xxxi. 56 (1864) ; Kirby, Cat. Het. p. 31.
Eusemia arruana, Boisd. Rev. Zool. (3) ii. p. 100 (1874) ; Oberth. Ét. Ent. xix. p. 22, pl. v. f. 27 ; Kirby, Cat. Het. p. 28.

Head and thorax black ; palpi with the 1st and 2nd joints yellowish white in front ; sides of frons yellowish white ; orange bands in front of and behind tegulæ and across mesothorax ; the hair on pectus, coxæ, and femora orange ; abdomen orange with dorsal and lateral black bands, those on 2nd and 3rd segments linear and on 4th and 5th dorsally confluent in the male, the ventral surface



Fig. 238.—*Burgena varia*, ♂. 1.

orange. Fore wing black ; a short orange fascia below base of cell ; a pale yellow quadrate spot in middle of cell ; a small or elongate spot above vein 6 and conjoined spots above veins 3 and 4 ; cilia white at apex. Hind wing black, with a broad orange medial band from above vein 6 to inner margin, more or less dilated on outer side between veins 6 and 3 ; underside with short orange fascia at base of costa.

Ab. 1. Fore wing with the streak below base of cell pale yellow.

Ab. 2. *transducta*. Underside of hind wing with the costal fascia except at base and the upper part of medial band pale yellow; abdomen with the black bands on 4th to terminal segment complete ventrally in the type from Gilolo.

Hab. GILOLO (*Wallace*), 1 ♂ type *transducta*; KÉ I. (*Wallace*), 2 ♀ type *educta*; ARU; N. GUINEA, Kapaur (*Doherty*), 2 ♀, Port Moresby, 2 ♂; TROBRIAND Is., Kirwini (*Meek*), 2 ♀; LOUISIADES, Fergusson I. (*Meek*), 2 ♂; QUEENSLAND, Moreton Bay (*J. J. Walker*), 1 ♂, 1 ♀; N. S. WALES, Richmond R., 1 ♂ type, (*Raynor*), 1 ♀. *Exp.* 50–60 millim.

27. *Burgena splendida*. (Plate LI. fig. 14.)

Eusemia splendida, Butl. A. M. N. H. (5) xix. p. 214 (1887); Kirby, Cat. Het. p. 31.

♂. Head and thorax black shot with blue; palpi white in front at base; frons white at sides; tegulae, the front of pectus, and hair on coxae orange; abdomen orange, with complete black bands on 4th to terminal segment which is entirely black. Fore wing black shot with brilliant blue; a small white antemedial spot in cell; a quadrate spot in end of cell and elongate spots above veins 6, 3, and 2; cilia white at apex. Hind wing black shot with blue; a broad medial orange band from vein 6 to inner margin, angled outwards at vein 5.

Hab. SOLOMONS, Guadalcanar (*Woodford*), 1 ♂ type. *Exp.* 62 millim.

*28. *Burgena amœna*. (Plate LI. fig. 3.)

Burgena amœna, Roths. Nov. Zool. iii. p. 39 (1896); Pagenst. Zoologica, 1900, pl. 1. f. 6.

♀. Black shot with brilliant blue; basal joint of palpi streaked with white; sides of frons and basal joint of antennae with white points; coxae and femora fringed with orange hair. Fore wing with greenish-blue spot in end of cell; a band just beyond the cell between veins 7 and 1, which is greenish blue towards extremities, yellowish white edged with blue between veins 5 and 2.

Hab. NEW BRITAIN. *Exp.* 52 millim.

*29. *Burgena chalybeata*. (Plate LI. fig. 15.)

Burgena chalybeata, Roths. Nov. Zool. iii. p. 39 (1896); Pagenst. Zoologica, 1900, pl. 1. f. 4.

♂. Black shot with brilliant blue; sides of 1st and 2nd joint of palpi and frons white; coxae and femora fringed with orange hair. Fore wing with broad diffused greenish-yellow subbasal band; underside with bluish bar across end of cell and curved band beyond it between veins 7 and 2, interrupted between 5 and 6.

Hab. NEW BRITAIN (*Webster*), type † ♂ in Coll. Rothschild. *Exp.* 52 millim.

Genus **SCROBIGERA.**

*Scrobiger*a, Jord. Nov. Zool. iii. p. 37 (1896) Type. *amatrix*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd well developed; frons with small rounded prominence; antennæ almost simple and slightly dilated before apex; tibiæ nearly smoothly scaled; claspers of male large and tufted with hair. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from upper angle; 9, 10 anastomosing with 7, 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars which are angled outwards at its origin; 6, 7 from upper angle; male with a fringe of long black hair on upperside in discal fold, in and beyond end of cell.

- A. Hind wing with orange band in both sexes.
 - a. Fore wing with four yellowish spots beyond the cell *amatrix*.
 - b. Fore wing with yellowish bar beyond the cell *proxima*.
 - c. Fore wing without spots or bar beyond the cell *hesperioides*.
- B. Hind wing with orange band in male, without band in female *vacillans*.
- C. Hind wing without orange band in either sex.
 - a. Fore wing with oblique orange band *semperi*.
 - b. Fore wing with oblique white band *niveifasciata*.
 - c. Fore wing with medial series of yellowish spots, and four spots beyond the cell *vulcania*.
 - d. Fore wing without band or spots *albomarginata*.

30. *Scrobiger*a *amatrix*.

Eusemia amatrix, Westw. Cab. Or. Ent. p. 68, pl. 33. f. 4 (1848); Hmps. n.

Moths Ind. ii. p. 149; Kirby, Cat. Het. p. 28.

Eusemia arunz, Moore, Lep. E. I. C. p. 288 (1859); Butl. Ill. Het. B. M. v. p. 18, pl. 82. f. 6; Kirby, Cat. Het. p. 28.

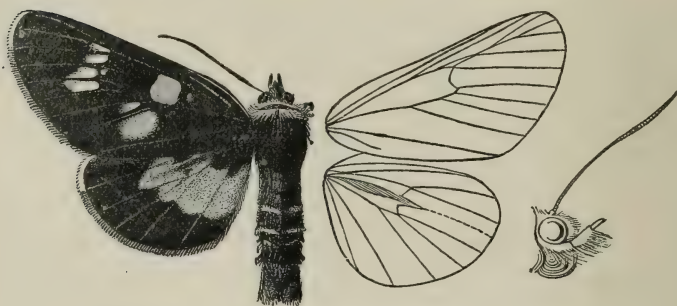


Fig. 239.—*Scrobiger amatrix*, ♂. 1.

♂. Black; palpi, frons, and tegulæ orange with a few black hairs; legs mostly orange; abdomen orange, with the base and segmental lines on dorsal surface black, the anal tuft partly black. Fore wing shot with blue; the basal part of costal edge orange; the basal area with silvery-blue streaks below costa and on median

nervure and vein 1; an oblique bar in middle of cell and a discoidal bar; a pale yellow quadrate spot in end of cell, an elongate spot above base of vein 2, and a somewhat triangular spot below it; four small spots beyond the cell between veins 8 and 4; cilia white at apex. Hind wing with an orange band occupying the medial third, with a black spot on it at upper angle of cell, its edges waved and its outer edge angled at vein 5; the tuft of hair black; the terminal area shot with blue; cilia white at apex.

♀. Frons and tegulæ black; neck with whitish ring; fore wing without orange on costa; the medial band extending nearly to costa; hind wing with the cilia white at tips throughout.

Chinese specimens have the abdomen dorsally black with orange bands, the anal tuft black except at tip; the specimen from Kia-ting-fu has the postmedial spots of fore wing white.

Hab. W. CHINA, Omei-shán, 1 ♂, Kia-ting-fu, 1 ♂; SIKHIM (Lidderdale), 2 ♂, 2 ♀, type *aruna*; ASSAM, Khásis (Godwin-Austen), 1 ♂. *Exp.*, ♂ 72-76, ♀ 86 millim. Type † in Mus. Oxon.

31. *Scrobigera proxima*.

Eusemia proxima, Wlk. i. 50 (1854); Butl. Ill. Het. B. M. i. p. 10, pl. 4. f. 2; Hmps. Moths Ind. ii. p. 149; Kirby, Cat. Het. p. 28.

♂. Black; palpi except 3rd joint, sides of frons, and tegulæ orange; legs and abdomen orange, the latter with the base and last two segments black. Fore wing with the costal edge orange on basal area; silvery-blue bars in middle of cell and on discocellulars; an oblique pale yellow medial band composed of three conjoined spots between subcostal nervure and vein 1; an oblique bar beyond the cell between veins 7 and 3; cilia white at apex. Hind wing with medial orange band intersected by the dark discal fold and expanding from cell to inner margin; cilia white at apex.

♀. Frons and tegulæ black; neck with pale yellow ring. Fore wing with the medial band extending almost to costa. Hind wing with the discal fold orange; the outer edge of the band sinuous and angled in discal fold.

Hab. ASSAM, 2 ♂ type; MALACCA; SUMATRA, 1 ♀. *Exp.*, ♂ 64, ♀ 70 millim.

Subsp. 1. *clymene*, Boisd. Rev. Zool. (3) ii. p. 97 (1874); Kirby, Cat. Het. p. 28.

Eusemia amatrix, Boisd. Rev. Zool. (3) ii. p. 88, nec Westw.

Fore wing with the bar across end of cell well separated from the spots below the cell.

Hab. PENANG, 1 ♀; JAVA (*Horsfield*), 5 ♂, 3 ♀.

Larva. Moore, Lep. E. I. C. p. 289, pl. 13. f. 2.

Black; head, dorsum of 1st somite, and the terminal somites yellow with black points; pink and white intersegmental bands; dorsal and lateral white stripes; legs yellow; hair sparse, black. Food-plant, *Cissus*.

32. *Scrobiger a hesperioides*.

Eusemia hesperioides, Wlk. Journ. Linn. Soc., Zool. vi. p. 86 (1862); Swinh.

Cat. Het. Mus. Oxon. p. 162, pl. 5. f. 3; Kirby, Cat. Het. p. 28.

Eusemia tricolor, Butl. A. M. N. H. (4) xv. p. 142 (1875).

Eusemia pulchra, Butl. A. M. N. H. (4) xv. p. 143, pl. 13. f. 4 (1875);

Hmps. Moths Ind. ii. p. 150; Kirby, Cat. Het. p. 28.

Episteme staudingeri, Oberth. Ét. Ent. xix. p. 22, pl. 3. f. 15 (1894).

♂. Black; head, tegulæ, pectus, and legs orange; abdomen orange, dorsally black at base and extremity and with slight dorsal black points; anal tuft orange at tips. Fore wing with the basal half of costal edge orange; an oblique pale yellow band from middle of subcostal nervure to vein 1 near tornus; cilia white at apex. Hind wing black-brown; a medial orange-red band expanding widely to inner margin; the discal fold brown with a small orange spot above it; cilia white at apex or white-tipped throughout.

♀. Head and tegulæ black; palpi orange; sides of frons and a ring round neck pale yellow; hind wing with the cilia sometimes wholly white.

Ab. 1. *pulchra*. Hind wing with the orange-red band much broader.

Hab. BORNEO, Sandakan (*Pryer*), 1 ♀, Kina Balu, Sarawak (*Wallace, Brooke, Low, Everett, Bartlett*), 5 ♂, 4 ♀, type and types *tricolor* and *pulchra*, type † ♀ in Mus. Oxon. *Exp.*, ♂ 62, ♀ 72 millim.

The type of *pulchra* is labelled "Murrut," India, in Berar, but this is certainly wrong, and there were specimens from Sarawak in the same collection.

33. *Scrobiger a vacillans*. (Plate LI. fig. 17.)

Eusemia vacillans, Wlk. xxxi. 51 (1864); Kirby, Cat. Het. p. 28.

Eusemia eudamoides, Butl. Ent. Mo. Mag. xii. p. 124 (1875); Kirby, Cat. Het. p. 28.

♂. Black; palpi except 3rd joint, frons, and tegulæ orange; antennæ with orange rings; legs and abdomen orange, the latter with ill-defined black dorsal bands. Fore wing with the costal edge orange on basal area; silvery-blue streaks below the costa and on vein 1, and oblique bars in middle of cell and on discocellulars; an oblique pale yellow bar across end of cell; a small spot above base of vein 2 and large spot below it; an oblique bar beyond the cell between veins 7 and 3 with dentate outer edge; cilia white at apex. Hind wing with diffused orange medial band expanding in discal fold and on inner margin; cilia white at apex.

♀. Frons and tegulæ black; neck with white ring; antennæ irrorated with white scales; abdomen black; fore wing without orange on costa; hind wing without the orange band; the cilia wholly white.

Hab. CELEBES (*Wallace*), 1 ♂, 1 ♀ type *eudamoides*. *Exp.*, ♂ 64, ♀ 68 millim. Type † ♀ *vacillans* in Mus. Oxon.

34. *Scrobigera semperi*.

Agarista semperi, Feld. Reis. Nov. pl. 107. f. 4 (1874); Kirby, Cat. Het. p. 28.

Eusemia milionata, Swinh. Cat. Het. Mus. Oxon. p. 162, pl. 5. f. 2 (1892).

♀. Black slightly shot with blue; palpi orange towards base; the hair on fore femora orange. Fore wing with slight streak of silvery-blue scales below basal part of costa; an oblique bar across middle of cell and a discoidal bar; an oblique orange band with irregularly sinuous edges from middle of costa to near tornus; cilia white towards apex. Hind wing strongly shot with blue; the cilia white.

♂. Fore wing with orange streak on costa from base to the orange band.

Hab. PHILIPPINES, Luzon, Mindanao (*Platen*), 1 ♀; CELEBES. *Exp.*, ♂ 60, ♀ 70 millim. Type † ♂ *milionata* in Mus. Oxon.

*35. *Scrobigera niveifasciata*. (Plate LI. fig. 6.)

Scrobigera niveifasciata, Roths. Nov. Zool. iii. p. 38 (1896).

♀. Black; palpi with the 1st and 2nd joints orange; frons at sides and antennæ with some white scales; neck with greyish ring; coxæ and stripes on legs orange; abdomen with the ventral surface orange. Fore wing with oblique moderately broad white band from middle of costa to just above tornus; cilia white at apex; some silvery-blue scales in middle of cell and on discocellulars. Hind wing with some white hairs in cilia which are wholly white at apex.

Hab. BORNEO, type † ♀ in Coll. Rothschild. *Exp.* 74 millim.

36. *Scrobigera vulcania*. (Plate LI. fig. 5.)

Eusemia vulcania, Butl. Ent. Mo. Mag. xii. p. 123 (1875); Hmps. Moths Ind. ii. p. 150; Kirby, Cat. Het. p. 28.

Eusemia glossatrix, Westw. Oates' Matabeleland, p. 356 (1881); Kirby, Cat. Het. p. 29.

♂. Black; palpi, sides of frons, and tegulæ largely mixed with orange; femora and tibiæ mostly orange; abdomen with the ventral surface banded with orange; the anal tuft orange at tip. Fore wing shot with blue; the basal area with the costal edge orange, and metallic blue streaks below costa and on median nervure and vein 1; oblique metallic bars in middle of cell and on discocellulars; a pale yellow quadrate spot in end of cell and others above and below base of vein 2; an oblique series of four small white spots beyond the cell between veins 8 and 5; cilia white at apex. Hind wing shot with brilliant blue; the cilia white.

Ab. 1. *glossatrix*. Hind wing with the termen white, intersected by the black veins.

♀. Neck with white ring; no orange on tegulæ or base of costa of fore wing.

Hab. BURMA, Tenasserim, Dawnat Hills (*De Nicéville, Bingham*), 3 ♂, 3 ♀, type. *Exp.*, ♂ 66, ♀ 68 millim. Type † ♂ *glossatrix* in Mus. Oxon.

37. *Scrobigera albomarginata*.

Eusemia albomarginata, Moore, P. Z. S. 1872, p. 509; Hmps. Moths Ind. ii. p. 150; Kirby, Cat. Het. p. 21.

Eusemia opheltes, Druce, P. Z. S. 1885, p. 518; Waterh. Aid, ii. pl. 172. f. 5; Pouj. N. Arch. Mus. Paris (3) iii. pl. xi. ff. 4, 4 a; Kirby, Cat. Het. p. 21.

Eusemia candidemarginata, Pouj. Le Nat. xiii. p. 143 (1891); Kirby, Cat. Het. p. 897.

♂. Black; 1st and 2nd joints of palpi and sides of frons mixed with orange hair; neck with orange ring; fore and mid femora and tibiæ and part of the hind femora and tibiæ orange; abdomen shot with blue, the ventral surface with orange bands. Fore wing slightly shot with blue; the basal area with the costal edge orange; metallic blue streaks on costa, median nervure, and vein 1; an oblique bar across middle of cell and a discoidal bar; the cilia white, and usually the termen more or less widely and expanding towards apex. Hind wing shot with brilliant blue; the cilia white, and usually the termen more or less widely. Underside of fore wing with two white spots in end of cell and two or three beyond the cell.

♀. Neck with white ring; fore wing without orange on costa.

Hab. BURMA, 1 ♂ type, Tounghoo, 1 ♀, Tenasserim, Dawnat Hills (*De Nicéville*), 1 ♀; ANDAMANS, 2 ♂, 3 ♀; ANNAM, Laos, Luang Prabang. *Exp.* 60–82 millim.

Subsp. 1. *flaviciliata*, Boisd. Rev. Zool. (3) ii. p. 104 (1874); Kirby, Cat. Het. p. 21.

Agarista fimbriata, Boisd. Rev. Zool. (3) ii. pl. 8. f. 1 (1874).

Both wings with the cilia very pale yellow.

Hab. PHILIPPINES, in Coll. Rothschild.

Genus COMOCRUS.

Comocrus, Jord. Nov. Zool. iii. p. 40 (1896)..... Type.
behri.

Proboscis fully developed; palpi with the 2nd joint obliquely upturned and fringed with long hair, the 3rd long, naked, and porrect; frons with truncate conical prominence, with raised rim at extremity; antennæ slightly dilated towards apex and almost simple; tibiæ with the spurs moderate; tibiæ and abdomen clothed with rough hair. Fore wing with veins 3 and 5 from close to angle of cell; 6 from just below upper angle; 9, 10 both anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle,

38. *Comocrus behri*.

Agarista behri, Angas, S. Australia Illust. pl. 37. ff. 21, 22 (1847); Kirby, Cat. Het. p. 22.

Agarista contorta, Wlk. xxxi. 45 (1864); Kirby, Cat. Het. p. 22.

Agarista flexuosa, Wlk. xxxi. 46 (1864); Kirby, Cat. Het. p. 22.

Agarista casuarinæ, Scott, Austral. Lep. i. p. 24, pl. 8 (1865); McCoy, Prod. Zool. Viet. i. pl. 8. ff. 5-8.

(*contorta*). Black; palpi with yellow and white markings; pale yellow streaks on sides of frons, vertex of head, tegulæ, patagia, and vertex of thorax; gulæ and front of pectus pale yellow; the hair on fore coxæ, femora, and tibiæ fulvous; the tibiæ and tarsi marked with white; abdomen with the terminal segment and ventral bands on the two subterminal segments orange-fulvous. Fore wing with oblique pale yellow subbasal band from costa to vein 1; a somewhat sinuous and oblique antemedial band; a bar from below middle of costa extending across the cell, with another from below its extremity to submedial fold; an oblique bar just beyond the cell from below costa to vein 4; the postmedial band oblique from costa to vein 4, then strongly incurved, strongly angled outwards in submedian fold, then retracted to below the bar below



Fig. 240.—*Comocrus behri*, ♂. †.

end of cell; a series of white streaks on the veins beyond it not reaching termen; cilia chequered black and white, wholly white towards apex and tornus. Hind wing slightly shot with blue; traces of yellow spots in and below middle of cell; a large discoidal spot; a postmedial maculate band oblique from costa to above vein 4, then incurved and again oblique to above tornus; cilia chequered black and white, wholly white towards apex; underside with yellow streak below basal half of costa; the spots in and below cell prominent and a spot above upper angle.

Ab. 1. *behri*. Hind wing with the postmedial band reduced to spots.

Ab. 2. *flexuosa*. Hind wing without discoidal spot or postmedial band.

Hab. QUEENSLAND, Moreton Bay (*Diggles*), 1 ♀ type *flexuosa*; N. S. WALES, Sydney (*Damel, Stutchbury*), 2 ♀ type *contorta*; W. AUSTRALIA, Champion Bay (*du Boulay*), 1 ♂. *Exp.*, ♂ 64, ♀ 82 millim.

Larva. Black; head, dorsal surface of 1st segment, legs and prolegs orange; somite 2 to the penultimate somite each with two

white bands, slight lines between the somites and the spiracles white; the penultimate somite crimson on dorsum and sides; the terminal segment with one white band; each somite with about eight white setæ dilated and flattened at extremity. Food-plants, *Loranthus pendulus* and *Casuarina*.

Genus CRURIA.

Type.

Cruria, Jord. Nov. Zool. iii. p. 39 (1896) *donovani*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd naked, porrect; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple, slightly dilated towards apex; tibiæ smoothly scaled; abdomen of male with protrusible lateral tufts of long hair from 2nd segment, the claspers large. Fore wing with vein 3 from well before angle of cell; 5 from just above angle; 6 from just below upper angle; 9, 10 anastomosing with 7, 8 to form the areole; 11 from cell. Hind wing with vein 3 from close to angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Abdomen with the bands pale yellowish *donovani*.
- B. Abdomen with the bands orange.
 - a. Wings with the markings white..... *neptioides*.
 - b. Wings with the markings pale yellow *darviniensis*.
 - c. Wings with the markings orange-yellow *platyxantha*.

39. *Cruria donovani*.

Agarista donovani, Boisd. Voy. Astrolabe, Lép. p. 176 (1832); Herr.-Schäff. Aussereur. Schmett. f. 28; Butl. Ill. Het. B. M. i. p. 9, pl. iv. f. 7; Kirby, Cat. Het. p. 23.

Black; palpi with pale yellow stripes at sides; frons at sides and gulæ yellow; back of head with yellow points; tegulæ edged with yellow, a band across mesothorax and patagia; pectus, coxæ, and



Fig. 241.—*Cruria donovani*, ♂. $\frac{1}{2}$.

femora with orange hair, the tarsi ringed with white; abdomen with pale yellow bands, the anal tuft and claspers tipped with orange. Fore wing with oblique white streak from below middle of cell to base of inner margin; some white scales on subcostal nervure and a slight streak above middle of vein 1; a white band across end of cell; two rather obscure spots beyond lower angle above veins 2 and 3; postmedial spots above and below vein 6 and others nearer

termen above and below vein 5; an obscure spot near tornus sometimes present, and three subterminal purplish-blue spots below costa; cilia white at apex and with white points towards tornus. Hind wing with oblique yellow maculate band from below costa beyond middle to middle of inner margin; the spot above vein 6 displaced outwards; cilia yellow at apex and with white points towards tornus; the underside with the basal area irrorated with yellow; a yellow fascia below basal half of costa; the cell, median nervure, submedian fold, and vein 1 streaked with yellow to the oblique band.

Hab. TIMOR; N. S. WALES, Moreton Bay (*Stutchbury, Diggles*), 6 ♂, 1 ♀, Sydney (*Raynor*), 1 ♂. *Exp.* 52–60 millim.

40. *Cruria neptioides*. (Plate LII. fig. 7.)

Agarista neptioides, Butl. A. M. N. H. (4) xv. p. 138 (1875); Kirby, Cat. Het. p. 23.

♂. Black; antennæ with white points; palpi at sides, sides of frons, spots on vertex of head, and gulæ white; tegulæ edged with ochreous; fore coxæ and femora with the hair orange; tarsi with white points; abdomen with orange bands except on first two segments, the anal tuft orange except at base. Fore wing with the costal edge orange; some white irroration below base of cell; a spot in middle of cell and bar across extremity; a postmedial series of elongate spots, those above veins 4, 5 nearer termen; two or three subterminal bluish spots below costa; cilia white at apex and with white spots towards tornus. Hind wing with oblique postmedial band from below costa to inner margin formed by elongate spots in the interspaces; cilia white at apex and with series of white spots.

♀. Tegulæ not edged with ochreous; fore wing with the costa not edged with ochreous; the white markings on both wings somewhat reduced.

Hab. THURSDAY I. (*Mathew*), 2 ♂; QUEENSLAND, C. York (*McFarlane*), 3 ♂; N. AUSTRALIA, Pt. Albany, 1 ♀ type. *Exp.* 50–56 millim.

41. *Cruria darwiniensis*. (Plate LII. fig. 14.)

Agarista darwiniensis, Butl. A. M. N. H. (5) xiv. p. 406 (1884); Kirby, Cat. Het. p. 23.

♀. Black; palpi striped with white at sides; sides of frons white; back of head with yellow spots; gulæ yellow; tegulæ edged with yellow; coxæ and fore femora with orange hair; tibiæ slightly striped with white, the tarsi ringed with white; abdomen with orange band except on first two segments, which have white lines, the extremity orange. Fore wing with yellow point at base and streak above basal half on subcostal nervure; a spot in middle of cell and oblique bar across its extremity; postmedial spots above and below vein 6, and others nearer termen on each side of vein 5; an obscure spot towards tornus; two or three bluish-white sub-

terminal spots below costa; cilia white at apex and with white spots towards tornus. Hind wing with oblique yellow maculate band from below costa beyond middle to middle of inner margin, the spot above vein 6 displaced outwards; cilia white at apex and with series of white spots.

Ab. 1. Fore wing with the bar across the cell obsolescent; hind wing with the oblique band reduced to a series of small obsolescent spots, on underside almost obsolete.—N. Guinea.

Hab. N. GUINEA (*Mathew*), 1 ♀; N. AUSTRALIA, Pt. Darwin (*Elsey*), 4 ♀ type. *Exp.* 48–62 millim.

42. *Cruria platyxantha*. (Plate LII. fig. 1.)

Agarista platyxantha, *Meyr. Trans. R. Soc. S. Austr.* xiv. p. 194 (1891); Kirby, *Cat. Het.* p. 897.

Agarista tropica, *Lucas, P. Linn. Soc. N. S. W.* (2) vi. p. 302 (1891).

♂. Black; antennæ with white points; palpi below, sides of frons, spots on vertex of head, gulæ, and edges of tegulæ ochreous; the hair on fore coxæ and femora orange; tarsi with white rings; abdomen with orange bands except on first two segments; the anal tuft orange except at base. Fore wing with the costal edge bright ochreous; the area below costa and cell on basal half irrorated with ochreous; a wedge-shaped spot in middle of cell and bar across extremity; a postmedial series of elongate spots, those above veins 4, 5 nearer the termen; two greenish subterminal spots below costa; cilia white at apex and spotted with white towards tornus. Hind wing with ochreous bar across end of cell; an oblique postmedial band from below costa to inner margin formed by elongate spots in the interspaces; cilia white at apex and with series of white spots.

♀. Tegulæ not edged with ochreous; fore wing with the ochreous markings reduced and hardly any irroration on basal area; hind wing without the bar across end of cell.

Hab. N. AUSTRALIA (*Elsey*), 1 ♂; QUEENSLAND, Cedar Bay (*Meek*), 1 ♂, 1 ♀. *Exp.* 52–56 millim.

Genus AGARISTA.

Agarista, *Leach, Zool. Misc. i.* p. 37 (1815) Type. *agricola*.

Proboscis fully developed; palpi obliquely upturned to above vertex of head, the 2nd joint fringed with long hair in front, the 3rd somewhat porrect; frons with conical truncate prominence, with raised rim at extremity; antennæ nearly simple and moderately dilated towards extremity; head, thorax, femora, and abdomen clothed with rough hair; tibiæ with the spurs long. Fore wing with vein 3 from close to angle of cell; 5 from well above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form a long areole; 11 free. Hind wing with vein 2 from close to angle of cell; 3, 4 from angle or shortly stalked; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle; the termen sinuous.

43. *Agarista agricola*.

Papilio agricola, Donovan. Ins. New. Holl. pl. 32. f. 1 (1805); Kirby, Cat. Het. p. 21.

Agarista picta, Leach, Zool. Misc. i. p. 38, pl. 15 (1815); Duncan, Nat. Libr., Exot. Moths, v. p. 83, pl. 2. f. 1.

♂. Black; 1st and 2nd joints of palpi, sides of frons, vertex of head, gulæ, a band on tegulæ, and extremity of patagia pale yellow; pectus and femora with the hair pink; fore and mid tibiæ and tarsi with white points, the mid tibiæ streaked with orange; abdomen with the anal tuft orange. Fore wing with oblique pale yellow fascia from below middle of cell to base of inner margin; a sub-basal blue line from costa to below cell; the antemedial blue line

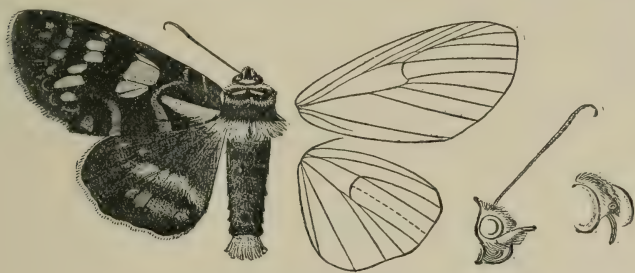


Fig. 242.—*Agarista agricola*, ♂. $\frac{1}{2}$.

slightly excurved below costa, then oblique to submedian fold; a large orange spot in end of cell, with smaller spots below it above and below base of vein 2; an oblique postmedial series of orange spots between veins 7 and 2 in echelon of two, two, and one spots; the postmedial line represented by blue spots running obliquely from vein 2 to 4, then two curved marks, then as a line retracted to below end of cell and stronger towards inner margin, with four spots beyond it on veins 7 to 5 and one near tornus; cilia white at apex, and white-tipped towards tornus. Hind wing with maculate blue medial band from below costa to inner margin; a maculate crimson postmedial band from vein 4 to near tornus; cilia white with some black at base; underside with blue streaks on basal area below costa and cell, and pale yellow and bluish spots in cell and on discocellulars.

♀. Tegulæ except in front, patagia, and thorax pale yellow; fore wing with the yellow on basal area extending to below costa.

Hab. QUEENSLAND, Moreton Bay (*Damel*), 5 ♂, 4 ♀; NEW SOUTH WALES, Sydney (*Raynor*), 1 ♂. *Exp.*, ♂ 70, ♀ 84 millim.

Subsp. 1. *biformis*, Butl. A. M. N. H. (5) xiv. p. 404 (1884); Kirby, Cat. Het. p. 21.

Fore wing of female with the spots in and below cell and the oblique postmedial series pale yellow; hind wing in both sexes with the crimson maculate band not extending above vein 3.

Hab. N. AUSTRALIA, Pt. Darwin (*J. J. Walker*), 2 ♂, 4 ♀, type.

Subsp. 2. *timorensis*, Roths. Nov. Zool. iii. p. 48 (1896).

♂. Fore wing with the oblique postmedial series of spots white; the spot in cell reduced; hind wing with the maculate crimson band replaced by obsolescent whitish spots.

Hab. DUTCH TIMOR, Oinainisa (*Doherty*). Type † in Coll. Rothschild.

Subsp. 3. *dæmonis*, Butl. A. M. N. H. (4) xviii. p. 249 (1876); Kirby, Cat. Het. p. 21.

♀. Fore wing with the orange medial and postmedial spots obsolete; hind wing with the crimson maculate band represented by traces of a spot above tornus, more distinct on underside.

Hab. N. GUINEA, Pt. Moresby, 1 ♀ type.

Larva. Scott, Austral. Lep. i. p. 25, pl. 8.

White; head, legs, prolegs, a band between somites 3 and 4, and a large dorsal patch on penultimate somite orange; each somite with a black band somewhat expanding dorsally and ventrally; a white subdorsal striga on the orange band after thoracic somites; the intersomital folds yellowish; about eight black setæ flattened and expanding towards extremity on each somite. Food-plant, *Vitis heterophylla*.

Genus ARGYROLEPIDIA, nov.

Type, *A. pamphilia*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with hair, the 3rd long, naked, somewhat porrect and dilated at extremity; frons with somewhat pointed conical prominence; antennæ hardly dilated towards extremity; pectus hairy; femora fringed with long hair; tibiæ nearly smooth, the spurs well developed; abdomen clothed with ridges of hair, male with the claspers large and with protrusible lateral tufts of hair at base. Fore wing with veins 3, 4 from angle of cell; 5 from well above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

A. Hind wing without white spots below and beyond cell.

a. Hind wing with the basal area metallic blue..... *novæ-hiberniæ*.

b. Hind wing with the basal area not metallic blue..... *pamphila*.

B. Hind wing with white spots below and beyond cell.

a. Fore wing with blue spots at base.

a¹. Hind wing without white in cell.

a². Abdomen with black patch on anal tuft *fracta*.

b². Abdomen without black patch on anal tuft *æqualis*.

b¹. Hind wing with the end of cell white, the two spots conjoined

solomonis.

b. Fore wing without blue spots at base..... *cæruleotincta*.

*44. *Argyrolepidia novæ-hiberniæ*. (Plate LII. fig. 9.)

Agarista novæ-hiberniæ, Boisd. Voy. Astrolabe, Léop. p. 178 (1832); Kirby, Cat. Het. p. 23.

♂. Black; palpi with the 1st joint in front and the 1st and 2nd behind orange, the 2nd and 3rd with some white scales; frons and vertex of head white at sides; tegulæ with white point at

middle; patagia and thorax with some white hair; pectus and legs white and black; the throat, fore coxæ, and fringe on femora orange; abdomen banded with white except towards extremity, the anal segment orange. Fore wing with subbasal and antemedial series of small metallic blue spots and a short streak on base of vein 1; a small white spot in middle of cell, with a blue spot above it on costa; spots below base of vein 2 and on middle of inner margin; a series of six small white spots beyond the cell between veins 7 and 2, with a small blue spot above them on costa, and a series beyond them incurved towards inner margin; a subterminal series of small spots; cilia white at apex. Hind wing with the basal half metallic blue except costal area on upperside, its outer edge sinuous; a few subterminal blue scales on veins 2, 3; cilia chequered white and black; the underside with maculate blue subterminal band from costa to vein 2.

Hab. NEW HANOVER, in Coll. Rothschild; NEW IRELAND.
Exp. 40 millim.

45. *Argyrolepidia pamphila*.

Bombyx pamphila, Stoll, Pap. Exot. iv. p. 153, pl. 368, G (1782); Kirby, Cat. Het. p. 24.

Agarista micacea, Wlk. xxxi. 48 (1864); Kirby, Cat. Het. p. 23.

Phalænoides ceramensis, Kirby, Cist. Ent. i. p. 346 (1875).

♂. Black shot with brilliant blue; palpi fringed with orange hair and with some white in front; sides of frons, basal joint of antennæ, spots on back of head, gulæ, edges of tegulæ, and spots on patagia white; the hair on fore coxæ and femora orange, the hair on pectus and marks on tibiæ and tarsi white; abdomen with bluish-white segmental bands, confluent below, the anal tuft



Fig. 243.—*Argyrolepidia pamphila*, ♂. 1.

orange. Fore wing with slight silvery-blue streak below base of vein 1; two pairs of subbasal points below costa and cell; antemedial points below costa, in cell, and above vein 1; a quadrate white spot in middle of cell; obliquely placed medial blue spots below veins 2 and 1; an oblique series of white spots beyond the cell between veins 7 and 2, with a blue spot above them below costa; a curved postmedial maculate line; a subterminal series of spots; cilia white at apex and tornus. Hind wing with silvery blue spot at lower angle of cell; postmedial spots between veins 2

and 4 conjoined to a diffused terminal series, the underside with the basal half silvery blue, extending on inner area to tornus and including a black discoidal bar.

Hab. AMBOINA (*J. J. Walker*), 1 ♂; CERAM, type † ♂ *micacea* in Mus. Oxon. *Exp.* 48 millim.

***46. *Argyrolepidia fracta*. (Plate LII. fig. 11.)**

Phalænoides fractus, Roths. Nov. Zool. vi. p. 432 (1899).

Head and thorax black-brown mixed with white hair; frons white at sides; palpi with the 2nd joint in front and behind, and neck yellowish; the coxæ and fore femora fringed with yellow hair; abdomen dorsally banded black and white, the ventral surface white, the anal tuft orange with black dorsal patch. Fore wing black-brown, with two small blue spots below base of costa and two on median nervure, larger spots at base of inner margin and above vein 1 before middle; a quadrate white spot in middle of cell; a sinuous series of five spots between veins 7 and 2 beyond the cell, with a series of blue points beyond them; a postmedial blue spot on vein 1 and a subterminal series of points. Hind wing black, with blue streak below base of cell; a medial white spot below the cell, and a spot beyond the cell traversed by a blue streak on vein 4; cilia chequered black and white. Underside with the base suffused with silvery blue, on hind wing extending along inner margin nearly to tornus.

Hab. N. GUINEA, Kapaur, type † in Coll. Rothschild, Milne Bay; QUEENSLAND. *Exp.* 40 millim.

47. *Argyrolepidia æqualis*.

Agarista æqualis, Wlk. xxxi. 47 (1864); Swinh. Cat. Het. Mus. Oxon. p. 159; Kirby, Cat. Het. p. 23.

Phalænoides dohertyi, Oberth. Ét. Ent. xix. p. 24, pl. v. f. 28 (1894).

♂. Black-brown tinged with blue; palpi fringed with orange hair and with some white in front; sides of frons, basal joint of antennæ, spots on vertex of head, gulæ, edges of tegulæ, and spots on patagia white; front of pectus and the hair on fore coxæ and femora orange, the hair on back of pectus and stripes on legs white; abdomen banded with white, the bands confluent on ventral surface, the terminal segment orange. Fore wing with short brilliant blue streak below base of vein 1, a spot at base, subbasal spots below costa and cell followed by spots below costa and in cell, and by antemedial spots below costa and above vein 1; a white spot in middle of cell, and an oblique maculate band beyond the cell from vein 7 to below 3; a blue spot below base of vein 2; a curved postmedial series of spots below costa and between vein 4 and inner margin; a subterminal series of spots obsolescent towards costa; cilia white at apex and near tornus. Hind wing shot with brilliant blue; large white spots below end of cell and beyond discocellulars;

cilia white towards apex and with series of white spots; the underside silvery blue at base, extending on inner area to near tornus; two postmedial blue spots below costa and two between veins 2 and 4.

Hab. ARU (*Wallace*), type† ♀ in Mus. Oxon.; N. GUINEA, Milne Bay (*Meek*), 2 ♂. *Exp.* 48 millim.

*48. *Argyrolepidia solomonis*. (Plate LII. fig. 19.)

Phalenoides equalis solomonis, Roths. Nov. Zool. vi. p. 432 (1899).

♀. Black-brown; palpi with the 1st joint orange in front, the 2nd white in front, orange behind; sides of frons and vertex of head white; thorax with some white hair; throat, fore coxæ, and fringe on fore femora orange; pectus and legs white and black; abdomen with white segmental lines, the anal tuft orange. Fore wing with small subbasal and antemedial blue spots; a small white spot edged with blue in middle of cell; an oblique white band beyond the cell between veins 7 and 2, its outer edge indented at vein 3; a curved series of small blue spots beyond it bent inwards above inner margin; a subterminal series of small blue spots; cilia white at apex and tornus. Hind wing with white spots below and beyond end of cell conjoined by a white patch in end of cell, its edges with some blue on the veins; cilia chequered black and white; the underside with blue-white at base extending on inner margin to near tornus.

Hab. SOLOMON Is., Tugela (*Woodford*), type† ♀ in Coll. Rothschild. *Exp.* 56 millim.

49. *Argyrolepidia cæruleotincta*. (Plate LII. fig. 12.)

Agarista cæruleotincta, Lucas, P. Linn. Soc. N. S. W. (2) vi. p. 303 (1891).

Head and thorax reddish brown; palpi with the 1st joint in front and the 2nd behind pale yellow, the 2nd in front white; sides of frons and basal joint of antennæ white; the hair on pectus, coxæ, and femora yellow; legs brown, marked with white; abdomen blackish, with bluish-white segmental lines and the ventral surface white; the anal tuft orange. Fore wing reddish brown; some brilliant blue scales at base; traces of an oblique antemedial series of blue points, a quadrate white spot in end of cell; an oblique white band from costa beyond middle to vein 2, tinged with blue toward costa, and with an indistinct series of blue points beyond it; cilia white-tipped at apex. Hind wing black shot with blue; a large white spot below middle of cell and another beyond the discocellulars; cilia white at apex and tornus and spotted with white at middle. Underside with silvery-blue fascia below base of costa of fore wing; hind wing with the basal area silvery blue, extending on inner area to near tornus.

Hab. QUEENSLAND, 1 ♂. *Exp.* 48 millim.

Genus **EUTRICHOPIDIA**, nov.

Type, *E. latina*.

Proboscis fully developed; palpi with the 2nd joint obliquely upturned and fringed with long hair in front, the 3rd porrect, naked, long, and dilated at extremity; frons with truncate conical prominence, with raised rim at extremity; eyes hairy; antennæ nearly simple, slightly dilated before extremity; head, thorax, femora, tibiæ, and abdomen clothed with long hair. Fore wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole, or abnormally 10 also anastomosing with 8; 11 free. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

50. *Eutrichopidia latina*.

Phalæna latinus, Donovan. Ins. N. Holl. pl. 32. f. 4 (1805); Angas, S. Australia Illustr. pl. 37. f. 23; Kirby, Cat. Het. p. 22.

Blue-black; sides of palpi and frons, basal joint of antennæ, gulæ, spots on back of head, tegulæ, and patagia pale yellow; the hair on coxæ, fore femora, and the tuft on outer side of mid tibiæ orange; tibiæ and tarsi with white points; abdomen with the anal tuft orange, the ventral surface with white segmental lines. Fore



Fig. 244.—*Eutrichopidia latina*, ♂. 3.

wing with the basal area sparsely irrorated with bluish-white scales, especially towards costa; an ochreous band with irregularly sinuous edges from costa just beyond middle to near tornus; a subterminal series of groups of bluish-white scales on the veins; cilia white and pale yellow at apex and tornus. Hind wing with three pale yellow spots on termen between apex and vein 6, and a band with waved inner edge between vein 4 and tornus, with three black spots on termen below veins 2, 3, 4; cilia pale yellow.

Hab. N.S. WALES, Mredi (*Raynor*), 1 ♀; TASMANIA, Hobart (*Allport*), 4 ♂, 4 ♀. *Exp.* 58 millim.

Larva. Scott, Austral. Lep. ii. p. 17, pl. 15.

Pale yellow; head, legs, prolegs, spiracles, and a large dorsal and lateral patch on subterminal somite crimson; numerous black strigæ on dorsal and lateral surfaces and more developed bands on terminal somite; an infra-spiracular black line; hairs fine, whitish. Food-plant, *Haloragis teucrioides*.

Cocoon formed of agglutinated earth.

Genus PHALÆNOIDES.

Type.

<i>Phalænoides</i> , Lewin, Lep. Ins. N.S.W. p. 2 (1805).....	<i>glycinæ</i> .
<i>Eutaetis</i> , Hübn. Zutr. Ex. Schmett. i. p. 28 (1827).....	<i>tristificus</i> .

Proboscis fully developed; palpi with the 2nd joint obliquely upturned and fringed with long hair in front, the 3rd porrect and dilated at extremity; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple and slightly dilated before extremity; head, thorax, femora, fore and mid tibiæ clothed with long hair; abdomen of male with lateral tufts of long hair on basal segments. Fore wing with vein 2 from towards angle of cell; 3 from close to angle; 5 from well above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form a moderately long angle; 11 free. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. Wings of male with streaks of ribbed semihyaline membrane in and below cell of fore wing and below vein 8 and in cell of hind wing, the neurulation being somewhat distorted; hind legs with the 1st joint of tarsus long, curved, dilated, and with serrate corneous ridge along upperside for producing sound by friction against each other or the ribbed membrane of wings; mid tibiæ and abdomen smoothly scaled, the anal tuft small.

51. *Phalænoides tetrapleura*.

Agarista tetrapleura, Meyr. Trans. R. Soc. S. Austr. xiv. p. 195 (1891); Kirby, Cat. Het. p. 897.

Phalænoides albamedia, Lucas, Proc. Linn. Soc. N.S.W. (2) vi. p. 301 (1891).

Phalænoides macleayi, Swinh. Cat. Het. Mus. Oxon. p. 157, pl. v. f. 11 (1892).



Fig. 245.—*Phalænoides tetrapleura*, ♂. †.

♂. Black; pale yellow marks on basal joint of palpi, sides of frons, and behind the eyes, the 2nd joint of palpi streaked with white; the basal joint of antennæ, back of head, tegulæ, patagia, and thorax with pale yellow points; pectus with orange hair; tibiæ and tarsi with white points; abdomen with yellowish-white segmental rings, the anal tuft and lateral tufts at base orange. Fore wing irrorated with a few bluish-white scales; an oblique series of six yellow spots from costa beyond middle to vein 2 near termen in echelon of three, two, and one spots, a few bluish-white scales beyond the spots and a series of slight postmedial streaks on

veins 7 to 4; cilia white at apex. Hind wing with some yellow scales on basal part of median nervure and vein 1; a yellow post-medial band from just above vein 6 to inner margin towards which it narrows; a yellow patch at apex.

Hab. QUEENSLAND, Brisbane, 3 ♂. *Exp.* 48-52 millim. Type † ♀ *macleayi* in Mus. Oxon.

SECT. II. Wings of male normal; the claspers large.

A. Fore wing with pale streaks on veins of terminal area.

a. Tegulæ and patagia yellow.

a¹. Hind wing without whitish patch at base.

a². Fore wing with whitish band extending from near base to beyond middle *neurogramma.*

b². Fore wing with oblique postmedial band *megisto.*

c². Fore wing with erect diamond-shaped spot beyond lower angle of cell *restricta.*

b¹. Hind wing with the basal area whitish *basiplaga.*

b. Tegulæ and patagia black *glycinæ.*

B. Fore wing without pale streaks on veins of terminal area.

a. Fore wing with the submedian interspace suffused with rufous *ardescens.*

b. Fore wing with the submedian interspace not suffused with rufous.

a¹. Abdomen with lateral series of white points *tristifica.*

b¹. Abdomen without lateral series of white points.

a². Fore wing with pale yellow spots *polysticta.*

b². Fore wing with white band beyond the cell.

a³. Tegulæ edged with orange; fore wing with white spot in cell *goldiei.*

b³. Tegulæ edged with white; fore wing without white spot in cell *inconspicua.*

***52. *Phalænoides neurogramma*. (Plate LII. fig. 8.)**

Agarista neurogramma, Meyr. Trans. Ent. Soc. 1889, p. 468; Kirby, Cat. Het. p. 24.

♂. Head and thorax orange; palpi marked in front and behind with black, the 3rd joint, antennæ, and spots on tegulæ and patagia black; pectus and legs black, the mid tibiæ banded with grey, the hind femora and tibiæ grey; abdomen bluish black, with the anal tuft orange-yellow. Fore wing dirty white; a basal blue-black band from costa to vein 1; a similar subbasal oblique band from just below costa to inner margin; the medial area suffused with smoky grey, the costa, subcostal nervure, and inner margin streaked with black; the terminal area black, very widely on costa, narrowing to vein 2 where its inner edge is bent inwards, the veins streaked with dirty white. Hind wing black-brown with a slight bluish tinge; the cilia whitish towards tornus. Underside black; fore wing with oblique white postmedial band from below costa to above tornus; hind wing with the base of costa streaked with white.

Hab. N. GUINEA, Mt. Obree (*Sayer*), type † ♂ in Coll. Meyrick. *Exp.* 44 millim.

***53. *Phalænoides megisto*. (Plate LII. fig. 6.)**

Agarista megisto, Boisd. Voy. Astrolabe, Lép. p. 179, pl. v. f. 5 (1832); Kirby, Cat. Het. p. 23.
Vitessa pyraliformis, Wlk. xxxi. 220 (1864); Swinh. Cat. Het. Mus. Oxon. p. 159.

♀. Head and thorax orange; palpi with some black hairs, the 2nd joint behind and 3rd joint black; antennæ black; tegulæ and patagia with black spots; legs black with whitish streaks; abdomen black tinged with blue, the terminal segment orange. Fore wing fuscous black, tinged with blue except terminal half; the veins, cell, and submedian fold streaked with grey, the last forking towards the antemedial band; a subbasal grey line expanding into a patch on inner margin; an antemedial yellowish band narrowing to costa; a grey line across end of cell; an oblique yellowish band from vein 7 just beyond the cell to vein 1 near tornus. Hind wing black-brown tinged with blue; cilia grey except towards apex.

Hab. DOREY; N. GUINEA (*Wallace*), 1 ♀ type † *pyraliformis* in Mus. Oxon. *Exp.* 58 millim.

***54. *Phalænoides restricta*.**

Phalænoides restricta, Roths. Nov. Zool. iv. p. 311, pl. 7. f. 8 (1897).

♀. Head, tegulæ, and patagia orange, the 3rd joint of palpi, antennæ, and patches on tegulæ black; thorax black, with orange patch on metathorax; abdomen, black shot with blue, the terminal segment orange. Fore wing black, shot with metallic blue to beyond middle; a whitish streak on base of inner margin; an oblique narrow yellowish-white antemedial band not reaching costa; a spot in end of cell; an erect diamond-shaped patch beyond lower angle of cell; the veins of terminal area streaked with white except towards tornus. Hind wing blue-black; cilia white except towards apex.

Hab. NEW BRITAIN (*Ribbé*), type † ♀ in Coll. Rothschild. *Exp.* 46 millim.

***55. *Phalænoides basiplaga*.**

Phalænoides basiplaga, Roths. Nov. Zool. vii. p. 275, pl. 5. f. 5 (1900).

♀. Head and thorax orange, the 3rd joint of palpi, antennæ, and spots on tegulæ and patagia black; pectus and legs black, the coxæ orange, the tibiæ streaked with grey. Fore wing black, shot with metallic blue to beyond middle; the base of inner margin with whitish streak; a subbasal yellowish-white line; an oblique antemedial band; an oblique postmedial band from below costa to vein 1 attenuate at extremities, angled inwards on discocellulars and outwards on vein 2; the veins streaked with white on medial and terminal areas. Hind wing with the basal half yellowish white, its outer edge strongly excurved at middle, the costal area and a streak on base of median nervure black; the terminal area black; cilia white except towards apex.

Hab. N. GUINEA, Milne Bay (*Meek*), type † ♀ in Coll. Rothschild. *Exp.* 60 millim.

56. *Phalænoides glycinae*.

Phalænoides glycinae, Lewin, Lep. Ins. N. S. Wales, p. 2, pl. 1 (1805); Boisd. Spéc. Gén. Léop. i. pl. 14. f. 3; McCoy, Prodr. Zool. Vict. i. pl. 8. ff. 9-13; Kirby, Cat. Het. p. 22.

Black; palpi at base and extremity of 2nd joint banded with yellow; sides of frons, vertex of head, tegulæ, patagia, and vertex of thorax striped with greenish yellow; gulæ and throat yellow; the hair on pectus, femora, and mid and hind tibiæ fulvous orange;

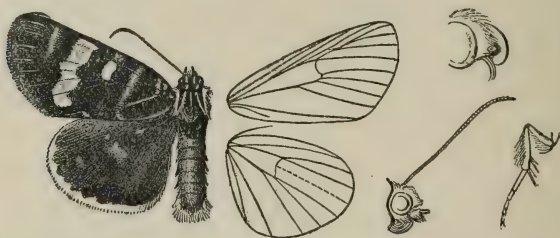


Fig. 246.—*Phalænoides glycinae*, ♂. †.

fore tibiæ fringed with yellow and black hair; tibiæ and tarsi with white points; abdomen with the terminal segment and a series of ventral bands fulvous orange. Fore wing with two greenish-yellow points at base; a subbasal line from costa to submedian fold, where it emits a streak nearly to the oblique antemedial line which is incurved to inner margin; a yellow bar across end of cell with some greenish scales above it; an oblique yellow band with irregularly sinuous edges from below costa beyond middle to above tornus, some greenish scales beyond it between costa and vein 5 and below vein 1 beyond middle; a series of slight white subterminal streaks on the veins usually present; cilia white at apex. Hind wing with a yellow patch just beyond the cell often developed in male; a series of pale yellow spots on the veins at termen and the cilia yellow; underside with a yellow fascia below basal half of costa, with a more or less developed curved band from its extremity to just beyond lower angle of cell, and a postmedial series of short bluish-white streaks on the veins.

Hab. N. S. WALES, Mrudi (*Raynor*), 2 ♂, 4 ♀; VICTORIA, Melbourne (*Purser*), 10 ♂, 4 ♀. *Exp.*, ♂ 54, ♀ 60 millim.

Larva. Scott, Austral. Lep. ii. p. 15, pl. 15.

White, the ventral surface pale yellow; the head marked with black; the somites with numerous black striæ on the white area interrupted by dorsal and supra-spiracular white lines; the spiracles on crimson spots becoming large and quadrate on medial somites; a broad dorsal and lateral crimson band on subterminal somite;

hairs sparse, black. Food-plant, various species of *Vitis* and *Cissus*, often doing great damage to vineyards.

Cocoon of agglutinated earth.

57. *Phalænoides ardescens*. (Plate LII. fig. 13.)

Agarista ardescens, Butl. A. M. N. H. (5) xiv. p. 405 (1884); Kirby, Cat. Het. p. 22.

♀. Black; palpi with the 1st joint, the base, and extremity of 2nd and the base of 3rd pale yellow; sides of frons, back of head, tegulæ, patagia, and vertex of thorax striped with yellow; pectus, coxæ, mid and hind femora and tibiæ except at extremity orange; fore legs and mid and hind tibiæ at extremity and tarsi black ringed with white; abdomen with patch on base of dorsum and the two terminal segments orange. Fore wing with the submedian interspace beyond the antemedial band and the terminal area suffused with bright red-brown; a yellowish-white basal maculate band; a sub-basal point below costa; an oblique antemedial maculate band from below costa to vein 1; a quadrate spot in end of cell; a band beyond the cell from below costa to vein 2, oblique, excurved beyond each angle of cell and angled inwards in median fold, obliquely placed points below it in submedian fold and on vein 1; a postmedial series of points on the veins from costa to vein 3, and a subterminal series with larger spot at tornus; some silvery blue in middle of cell, on discocellulars, and base of vein 2, and above middle of vein 1. Hind wing with the cilia chequered black and white.

♂. Fore wing with the yellowish bands and spots rather more developed; cilia with a series of white points.

Hab. N. AUSTRALIA, Pt. Darwin, 1 ♀ type; QUEENSLAND, Cairns. *Exp.* 46 millim.

58. *Phalænoides tristifica*.

Eutactis tristifica, Hübn. Zutr. Ex. Schmett. i. p. 28, ff. 165, 166 (1827); Kirby, Cat. Het. p. 22.

Agarista lewinii, Boisd. Voy. Astrolabe, Lép. p. 176 (1832); Butl. Ill. Het. B. M. i. p. 7, pl. 4. f. 2; McCoy, Prod. Zool. Vict. i. pl. 8. ff. 1-4.

Agarista ephyra, Angus, S. Australia Ill. pl. 37. f. 20 (1847); Herr.-Schäff. Aussereur. Schmett. f. 27; Butl. Ill. Het. B. M. i. p. 8, pl. 4. f. 4; Kirby, Cat. Het. p. 22.

Cupreous black; 2nd and 3rd joints of palpi and sides of frons with white points; back of head, tegulæ, and patagia with greenish-ochreous spots; the hair on femora and mid and hind tibiæ orange; tibiæ and tarsi with white points; abdomen with lateral series of whitish points, the terminal segment and ventral bands on last four segments orange. Fore wing with white points at base; a short subbasal ochreous band from costa; the antemedial ochreous band interrupted in submedian fold; a quadrate spot in middle of cell, often with another below it on inner area; a postmedial band from below costa to vein 2, excurved beyond lower angle of cell, and a spot rather nearer the base on inner area, two curved subterminal series of yellowish-white points; cilia white at

apex and tornus. Hind wing unmarked except for a series of white points on the cilia; the underside with small ochreous discoidal spot and postmedial series of white points.

Ab. 1. *ephyra*. Hind wing with more or less developed ochreous discoidal patch and curved postmedial series of white points on the veins.

Hab. N. S. WALES (*Raynor*), 3 ♂, 1 ♀; VICTORIA, 3 ♂; S. AUSTRALIA (*Bakewell*), 1 ♂; TASMANIA, 9 ♂, 3 ♀. *Exp.* 44-52 millim.

Larva. Scott, Austral. Lep. ii. p. 14, pl. 15.

Pale yellow; head scarlet marked with black; 1st and subterminal somites with scarlet dorsal and lateral bands with two lateral black spots; anal claspers scarlet; the thoracic somites with black striæ and a series of somewhat U-shaped marks; the abdominal somites with numerous irregular black lines terminating above the spiracles, which are encircled by black annuli and with black streaks below them; hairs fine, whitish. Food-plants, *Epilobium junceum* and *Ænotheras*.

Cocoon of agglutinated earth.

59. *Phalænoides polysticta*.

Agarista polysticta, Butl. A. M. N. H. (4) xv. p. 138 (1875); Kirby, Cat. Het. p. 22.

Phalænoides butleri, Swinh. Cat. Het. Mus. Oxon. p. 157, pl. v. f. 6 (1892).

Black; 1st and 2nd joints of palpi, sides of frons, basal joint of antennæ, back of head, tegulæ, patagia, and thorax with pale yellow spots; gulæ yellow; fore coxæ and mid tibiæ with tufts of orange hair; abdomen with the terminal segment, anal tuft, and ventral bands on last four segments orange. Fore wing with two small pale yellow spots at base; a subbasal and two antemedial series of three spots; a medial spot below costa, one in end of cell and one below it on vein 1; a band beyond the cell from below costa to vein 2, excurved below costa and more strongly beyond lower angle of cell, a small spot below it on vein 1 and usually three points beyond it below costa; a subterminal series of small spots; cilia white at apex and tornus. Hind wing with the cilia pale yellow except between veins 4 and 6; the underside with small yellow spot beyond the cell.

Ab. 1. *butleri*. Hind wing with pale yellow band beyond the cell between veins 6 and 2, excurved beyond lower angle.

Hab. N. S. WALES, Sydney (*Damell*), 9 ♂, 2 ♀ type; W. AUSTRALIA, Freemantle (*J. J. Walker*), 1 ♂. *Exp.*, ♂ 40, ♀ 44 millim. Type ♂ *butleri* in Mus. Oxon.

*60. *Phalænoides goldiei*.

Agarista goldiei, Druce, A. M. N. H. (6) xiv. p. 21 (1894); Roths. Nov. Zool. iii. pl. 15. f. 31.

♂. Black; palpi orange below at base, white towards extremity of 2nd joint; sides of frons and points on back of head white;

tegulæ and fore femora and tibiæ fringed with orange; pectus with some white hair; abdomen whitish at base, the anal tuft orange. Fore wing with white point in middle of cell; an oblique white band beyond the cell between veins 7 and 2. Hind wing with broad white medial band from subcostal nervure to inner margin, rounded above, and with its outer edge minutely crenulate; cilia white at apex. Underside with bluish streaks below base of costa of each wing and antemedial spot in cell of fore wing.

Hab. N. GUINEA, Pt. Moresby (*Goldie*), type † ♂ in Coll. Druce. *Exp.* 48 millim.

*61. *Phalænoides inconspicua*.

Phalænoides inconspicua, Roths. Nov. Zool. iii. p. 49, pl. 15. f. 30 (1896).

♂. Black; palpi with some orange at base and white in front of 2nd joint; head mixed with white; the tegulæ with some white hair behind; fore coxæ and fringe of femora orange, the hair on mid and hind coxæ white; abdomen with white segmental lines and the ventral surface white, the claspers fringed with brownish hair; wings slightly shot with blue; a white band beyond the cell from vein 7 to just below 2, with somewhat waved edges and angled at vein 5. Hind wing with broad medial white band from subcostal nervure to inner margin, rounded above and with minutely crenulate outer edge. Underside of fore wing with diffused blue streak below costa from base to beyond middle,

Hab. N. GUINEA, Humboldt Bay (*Doherty*), type † ♂ in Coll. Druce. *Exp.* 50 millim.

Genus **XANTHOSPILOPTERYX.**

Xanthospilopteryx, Wilgrn. Öfv. Vet.-Akad. Förh. xv. p. 83 (1858). Type. *superba*.

Proboscis fully developed; palpi with the 2nd joint obliquely upturned and fringed with long hair in front, the 3rd long and porrect; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple, distinctly dilated towards extremity; mid and hind tibiæ slightly fringed with rough hair above; male with the claspers large. Fore wing with veins 3, 4, 5 from angle of cell; 6 from upper angle; 9 and 10 anastomosing with 8 to form the areole, 7 from the areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Fore wing with the ground-colour fulvous orange *poggei*.
- B. Fore wing with the ground-colour black.
 - a. Hind wing with black discoidal spot..... *mozambica*.
 - b. Hind wing without discoidal spot.
 - a¹. Abdomen with orange and black dorsal bands.
 - a². Abdomen with the bands of ventral surface orange.
 - a³. Hind wing with crimson spot on termen below vein 2 *perdix*.
 - b³. Hind wing without crimson spot on termen below vein 2 *indecisa*.

- b². Abdomen with the basal bands of ventral surface orange, the three terminal bands white ... *africana*.
 c². Abdomen with all the bands of ventral surface white.
 a³. Tegulæ with yellow spots *geryon*.
 b³. Tegulæ with white points.
 a⁴. Hind wing with the costa not black at base. *pallida*.
 b⁴. Hind wing with the costal edge black to base *terminatis*.
 d². Abdomen with the ventral surface black, with sublateral and ventral series of white points.
 a³. Hind wing with the terminal band broad towards tornus and with orange spot on underside below vein 2 *pardalina*.
 b³. Hind wing with the terminal band narrow towards tornus and without spot on underside. *superba*.
 b¹. Abdomen orange tinged with blackish.
 a². Fore wing with the ground-colour yellow *zenceri*.
 b². Fore wing with the ground-colour black.
 a³. Hind wing with the black on costa extending to base *longipennis*.
 b³. Hind wing with the black on costa not extending to base.
 a⁴. Tegulæ and patagia with white spots.
 a⁵. Hind wing with the basal area suffused with black *cirbyi*.
 b⁵. Hind wing with the basal area not black. *æmulatrix*.
 b⁴. Tegulæ and patagia with yellow spots *mons-lunensis*.
 c¹. Abdomen black.
 a². Fore wing with the markings yellow.
 a³. Abdomen with the anal tuft orange; hind wing orange *hypercompoides*.
 b³. Abdomen with the anal tuft black; hind wing orange-red *melanosoma*.
 c³. Abdomen with the anal tuft black with a few orange hairs.
 a⁴. Hind wing scarlet or orange above *nigridorsa*.
 b⁴. Hind wing black above *grandis*.
 b². Fore wing with the markings whitish *hornimani*.

62. *Xanthospilopteryx poggei*.

Eusemia poggei, Dewitz, Mitth. Münch. ent. Ver. iii. p. 31, pl. 2. f. 3 (1879), ♂; Mab. Nov. Lep. pl. 17. f. 4; Kirby, Cat. Het. p. 29.

Eusemia falkensteini, Dewitz, Nov. Act. Ac. xlii. p. 66, pl. i. f. 10 (1881), ♀.

♂. Head and thorax black; 1st and 2nd joints of palpi, sides of frons, back of head, and tegulæ and patagia spotted with white; gulæ white; coxæ, femora, and extremities of tibiæ and 1st joint of tarsi with white spots, the medial part of tibiæ above orange; abdomen black, the dorsal area orange from base to end of 6th segment, lateral, sublateral, and ventral series of white spots; anal tuft tipped with white. Fore wing reddish orange; the costa black, expanding at base and with two white and a silvery-blue spot on it; the inner margin black except at base; a small wedge-shaped black spot with silvery blue on it on subcostal nervure at middle of cell; a discoidal black patch with silvery-blue bar on it; a terminal

black band, expanding very widely on apical area, and with an oblique series of elongate white spots between veins 4 and 8, expanding again at tornus, and with a white spot and two silvery-blue streaks above tornus; cilia with series of white spots. Hind wing redder orange, with terminal black band with sinuous inner edge angled inwards on vein 2; cilia chequered white and black.

♀. Abdomen with dorsal black bands on the orange area and white band on subterminal segment; fore wing without the black and silvery mark in cell and on discocellulars.

Hab. W. AFRICA, Guinea, Cameroons, 1 ♂. *Exp.* 52 millim.

63. *Xanthospilopteryx mozambica*.

Eusemia mozambica, Mab. Bull. Soc. Ent. Fr. (6) x. p. cxxiii (1890); id Nov. Lep. p. 51, pl. 8. f. 2; Kirby, Cat. Het. p. 898.

♂. Head and thorax black; palpi, sides of frons, back of head, tegulæ, patagia, and thorax with white spots; pectus, coxæ, and extremities of femora and tibiæ with white spots, the fore and mid tibiæ with orange patches; abdomen black, dorsally banded with orange except at extremity, a lateral series of white spots and ventral spots on terminal segments, sublateral orange streaks on basal half. Fore wing black, with white point below base of costa; four subbasal points—below costa, in cell, below cell, and above vein 1, the point below the cell nearer base; an oblique orange antemedial band from below costa to just above inner margin; a bar across end of cell arising just below costa, and a large spot in submedian interspace; a broad band with sinuous edges from below costa beyond middle to near termen at vein 3, towards which it is bent outwards; a spot above tornus; a silvery-blue spot in middle of cell, a discoidal bar, and postmedial spots on veins 2 and 1; cilia white at apex. Hind wing crimson-red; the base black; a large black discoidal spot; a broad black terminal band expanding widely between veins 3 and 2; cilia white-tipped at apex; the underside with a little orange on termen below vein 2.

Hab. ZANZIBAR, 1 ♂; MOZAMBIQUE, type† ♀ in Coll. Mabille. *Exp.* 70 millim.

64. *Xanthospilopteryx perdix*. (Plate LII. fig. 3.)

Eusemia perdix, Druce, P. Z. S. 1887, p. 668; Kirby, Cat. Het. p. 29.

Eusemia coa, Mab. Bull. Soc. Ent. Fr. (6) x. p. cxxiii (1890); Kirby, Cat. Het. p. 898.

♀. Head and thorax black; sides of palpi and frons, back of head, tegulæ, patagia, and thorax with yellowish-white spots; gulæ yellowish white; pectus, coxæ, femora, tibiæ, and tarsi marked with white, the tibiæ with orange bands; abdomen black, banded with orange, and with the extremity orange. Fore wing black; two yellowish-white points below base of costa and a short streak above vein 1; an oblique sinuous orange antemedial band from subcostal

nervure to vein 1; a broad bar across end of cell and quadrate patch below base of vein 2; a broad band beyond the cell between veins 8 and 3, and a spot above tornus; an oblique silvery-blue bar in middle of cell and spot below it, a discoidal bar, and short post-medial streaks on veins 2 and 1; cilia white at apex. Hind wing deep crimson; a broad black terminal band expanding below vein 3, with a crimson spot on termen below vein 2, on costa not extending to middle; cilia yellowish and white at apex.

Ab. 1. Fore wing with the postmedial band narrower, its inner edge indented at vein 3.

Hab. E. AFRICA, type ♀ *eo*a in Coll. Mabilie, Mpwapwa; BR. C. AFRICA, Nyasa L. (*Crawshay*), 1 ♀; DELAGOA BAY, 1 ♂, 1 ♀. *Exp.* 70 millim.

65. *Xanthospilopteryx indecisa*. (Plate LII. fig. 16.)

Eusemia indecisa, Butl. A. M. N. H. (6) vii. p. 50 (1891); Kirby, Cat. Het. p. 29.

♂. Head and thorax black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, patagia, and thorax with yellowish-white spots; gulæ yellowish; spots on coxæ, extremities of femora, tibiæ, and tarsal joints yellowish, the tibiæ with orange patches; abdomen black, banded with orange. Fore wing black; yellowish-white points below costa at base and near base, and another above vein 1 on a small orange spot; an oblique antemedial orange band from below costa to vein 1; a large spot in end of cell, and a quadrate spot below base of vein 2; a broad oblique band with slightly waved edges and rounded extremities from below costa to vein 3, and a small spot above tornus; some silvery-blue scales in and below middle of cell and on discocellulars, and short streaks on veins 2 and 1 towards tornus; cilia white at apex. Hind wing crimson-red, with a little black at base; a terminal blue-black band, expanding widely on apical area and on vein 2; the cilia ochreous at apex.

Hab. BR. E. AFRICA, Albert Nyanza (*Emin*), 2 ♂ type. *Exp.* 70 millim.

66. *Xanthospilopteryx africana*. (Plate LII. fig. 5.)

Eusemia africana, Butl. A. M. N. H. (4) xv. p. 142 (1875); Kirby, Cat. Het. p. 29.

Eusemia meretrix, Westw. Oates' Matabeleland, p. 355 (1881).

Xanthospilopteryx fatima, Kirby, Trans. Ent. Soc. 1891, p. 288, pl. 15. f. 2; Kirby, Cat. Het. p. 898.

Head and thorax black; palpi at sides, sides of frons, back of head, tegulæ, patagia, metathorax, pectus, and fore coxæ with white spots; gulæ white; tibiæ with orange patches; tarsi ringed with white; abdomen banded black and orange, the bands on ventral surface white towards extremity. Fore wing black, with four bluish-white spots on basal area below costa; an oblique orange antemedial band with more or less irregular edges from submedian nervure to vein 1; an oblique band across end of cell; a quadrate patch

below base of vein 2; an oblique band from below costa beyond middle to vein 3 towards termen, with a notch in its inner side at vein 4; a spot above tornus; an oblique silvery-blue spot in middle of cell, with some scales below the cell, and a discoidal lunule; cilia white at apex. Hind wing crimson-red; a broad terminal black band with sinuous inner edge, expanding on apical area and vein 2 and running inwards on costa to before middle; cilia white at apex.

Ab. 1. *fatima*. Fore wing with the antemedial band interrupted at median nervure and in submedian fold.

Hab. BR. E. AFRICA, Taita (*Wray*), 2 ♂ type *fatima*; BR. C. AFRICA, Zomba (*Johnston*), 2 ♀; ZULULAND (*Angas*), 1 ♂; NATAL (*Gooch*, *Gueinzus*, *Trimen*), 3 ♂, 3 ♀, type. *Exp.*, ♂ 68, ♀ 76 millim. Type † ♀ *meretrix* in Mus. Oxon.

67. *Xanthospilopteryx geryon*.

Noctua geryon, Fabr. Spec. Ins. ii. p. 216 (1781); Kirby, Cat. Het. p. 29.

Noctua euphemia, Stoll, Pap. Exot. iv. pl. 345, A (1782).

Eusemia nugatrix, Westw. Oates' Matabeleland, p. 356 (1881); Kirby, Cat. Het. p. 29.

Head and thorax black; palpi, sides of frons, and back of head with white points; tegulæ with two pairs of orange spots; patagia with white points; gulæ and patches on pectus and coxæ, streaks on femora, and rings on tarsi white; tibiæ with orange patches; abdomen black, with orange dorsal bands and white lateral spots and ventral bands. Fore wing black, with two orange spots below base of costa; an antemedial triangular spot in cell, often with streaks above and below it and a spot above vein 1, a streak on inner margin; quadrate patches in end of cell and below base of vein 2, the latter sometimes very large; an oblique band with irregular edges from below costa beyond middle to vein 2, with a notch on its inner side at vein 4, this band sometimes connected with the patch below vein 2; a spot above tornus; some silvery blue in and below the cell near base, in and below middle of cell and on discocellulars; cilia white at apex. Hind wing orange-red to crimson-red; the costa black; a broad black terminal band expanding at apex and vein 2; cilia white at apex.

Hab. LIBERIA, C. Palmas; SIERRA LEONE (*Mitford*, *Austen*), 3 ♂, 3 ♀; GUINEA, 2 ♂; ASHANTI, 1 ♀; S. NIGERIA, Abutshi (*Newman*), 1 ♀; UPPER NILE (*Petherick*), 2 ♂, Wadelai (*Emin*), 2 ♂, 1 ♀. *Exp.* 70–74 millim. Type † ♂ *nugatrix* in Mus. Oxon.

68. *Xanthospilopteryx pallida*.

Eusemia pallida, Wlk. i. 52 (1854); Butl. Ill. Het. B. M. i. p. 10, pl. 5. f. 3; Kirby, Cat. Het. p. 30.

Eusemia niveosparsa, Westw. Oates' Matabeleland, p. 355 (1881); Kirby, Cat. Het. p. 30.

(*niveosparsa*.) Head and thorax black; sides of palpi and frons, back of head, tegulæ, and patagia with white points; gulæ, stripes on coxæ

and femora, and rings on tarsi white; tibiæ with orange patches; abdomen black, with orange bands above, white below, the anal tuft orange. Fore wing black; four bluish-white spots below basal half of costa, two below the cell, and some metallic blue scales above vein 1; a yellowish antemedial spot in cell and a streak on inner margin; a somewhat triangular bar across extremity of cell, and a quadrate spot below base of vein 2; spots beyond the cell between veins 8 and 6, and often a slight streak below 6; larger spots between veins 5 and 3 and a spot above tornus; some silvery-blue scales in middle of cell and on discocellulars; cilia white at apex. Hind wing scarlet; a terminal black band with waved inner edge, expanding on apical area and at vein 2, and running inwards on costa to before middle, sometimes with a scarlet spot on termen below vein 2; the cilia white at apex.

The type is an aberration with the markings of fore wing orange; hind wing orange with a slight red tinge.

Hab. OLD CALABAR (*Cockburn*), 5 ♂; CAMEROONS, 1 ♀; CONGO, 1 ♀; ? hab. 1 ♀ type. *Exp.* 76 millim. Type † ♀ *niveosparsa* in Mus. Oxon.

Subsp. 1. *deficiens*, Mab. Bull. Soc. Ent. Fr. 1891, p. clxxxiii; id. Nov. Lep. pl. 8. f. 4, & pl. 17. f. 1; Kirby, Cat. Het. p. 899.

Xanthospilopteryx minerva, Weymer, Stett. ent. Zeit. liii. p. 103 (1892).

Fore wing with the elongate spot on inner margin replaced by two small spots above vein 1.

Hab. GABOON, type † *minerva* in Coll. Weymer.

69. *Xanthospilopteryx terminatis*.

Eusemia terminatis, Wlk. vii. 1587 (1854); Kirby, Cat. Het. p. 25.

Eusemia medeba, Druce, Ent. Mo. Mag. xvi. p. 269 (1880); Waterb. Aid. ii. pl. 172. f. 4; Kirby, Cat. Het. p. 25.

Head and thorax black; sides of palpi and frons, back of head, tegulæ, and patagia with white spots; gulæ, coxæ, streaks on femora, and rings on tarsi black; tibiæ with orange patches; abdomen black, with white segmental bands tinged with ochreous on basal half of dorsum; anal tuft orange at extremity. Fore wing black; three bluish-white spots below basal part of costa, two below cell, and some silvery blue followed by a bluish spot above vein 1; an antemedial triangular white spot in cell and a somewhat bar-shaped spot across its extremity; a quadrate spot below base of vein 2; elongate spots beyond the cell above veins 7, 6, and 4, the last with a more triangular spot below it; a spot above tornus; cilia white at apex; some silvery blue in middle of cell and on discocellulars, and a streak in middle of submedian fold. Hind wing orange, the base black; a terminal black band with sinuous inner edge running on costa to base; cilia white at apex; underside with white spot on termen towards tornus.

Ab. 1. *medeba*. Hind wing pale yellow.

Hab. SIERRA LEONE, 2 ♂, 3 ♀, type; LAGOS (*Strahan*), 1 ♂ OLD CALABAR. *Exp.*, ♂ 46, ♀ 54 millim.

70. *Xanthospilopteryx pardalina*. (Plate LII. fig. 18.)

Eusemia pardalina, Wlk. Proc. Nat. Hist. Soc. Glasg. i. p. 329, pl. 5. f. 1 (1869); Kirby, Cat. Het. p. 29.

Eusemia ochracea, Butl. A. M. N. H. (4) xv. p. 142 (1875).

Xanthospilopteryx kirbyi, Carpenter, P. Dublin Soc. viii. p. 308 (1893).

♀. Head and thorax black; palpi at sides, gulæ, coxæ, femora and tibiæ at extremity, and tarsal joints with white spots; sides of frons, back of head, tegulæ, and patagia with ochreous spots; tibiæ with orange patches; abdomen black, with dorsal orange bands and the anal tuft orange, sublateral and ventral series of ochreous-white spots. Fore wing black; three small yellow points below basal part of costa, two below the cell and one above vein 1; an antemedial orange-yellow spot extending from just above to just below cell; a small medial spot above vein 1 and elongate spot below it; a quadrate spot in end of cell and another below base of vein 2; an oblique band beyond the cell between veins 8 and 3, its extremities rounded and its inner edge indented at vein 5; a spot above tornus; silvery blue marks in and below middle of cell, a discoidal line, and spots on veins 2 and 1; cilia yellowish at apex. Hind wing orange; a little black at base; a broad terminal black band, angled inwards at vein 2, with a yellow spot below it most prominent on underside, expanding on apical area and on costa running inwards to base; cilia yellowish at apex.

Hab. CONGO, 2 ♀, type and type *ochracea*; ANGOLA, Kinsembo 1 ♀. *Exp.* 60 millim.

71. *Xanthospilopteryx superba*.

Eusemia superba, Butl. A. M. N. H. (4) xv. p. 141, pl. 13. f. 3 (1875); Kirby, Cat. Het. p. 29.

Eusemia incongruens, Butl. P. Z. S. 1878, p. 381; Kirby, Cat. Het. p. 29.

Xanthospilopteryx smithii, Holl. Donaldson Smith's Unknown African Countries, p. 408, f. 3 (1897).

Eusemia interniplaga, Mab. Bull. Soc. Ent. Fr. (6) lx. p. clxxxiv (1891); Kirby, Cat. Het. p. 899.



Fig. 247.—*Xanthospilopteryx superba*, ♂. 1.

♂. Head and thorax black; sides of palpi and frons, back of head, tegulæ, and patagia with white spots; gulæ white, fore coxæ and extremity of femora white; tarsal joints with white points; tibiæ with orange patches; abdomen black, with dorsal orange bands

ending in lateral white points; sublateral white points on terminal segments and a ventral series. Fore wing black, with three bluish-white points below basal part of costa, one below the cell, and one on inner margin; some silvery-blue scales above and below cell near base; a small orange spot below the cell and another above vein 1, followed by a large antemedial spot extending from above to below cell, and another above and below vein 1; a broad bar across end of cell, and quadrate spot below base of vein 2; a broad oblique band or patch beyond the cell between veins 8 and 3 with curved ends, and a spot above tornus; an oblique silvery-blue bar in middle of cell, with streak above it and spot in submedian fold, a discoidal bar and postmedial spots on veins 2 and 1; cilia white at apex. Hind wing crimson, rarely scarlet, with black terminal band expanding on apical area and at vein 2 and on costa running back to base; cilia white at apex.

♀. Abdomen with the anal tuft orange, the sublateral series of white points complete.

Ab. 1. Hind wing orange slightly tinged with red; fore wing with oblique antemedial band from above cell to near inner margin.—Tanganyika.

Ab. 2. *incongruens*. Hind wing orange; fore wing with the lower antemedial spot not extending below vein 1, or reduced to a small separate spot; female with the band of hind wing narrow.—Abyssinia; Br. E. Africa, Wawamba.

Hab. ? W. AFRICA, type † *interniplaga* in Coll. Mabille; ABYSSINIA, Atbara R., 1 ♂ 1 ♀, type *incongruens*; BR. E. AFRICA, Wawamba (*Scott-Elliott*), 1 ♀, Victoria Nyanza (*Hannington*), 1 ♂; GERMAN E. AFRICA, Tanganyika, Fwambo (*Nutt*), 1 ♀; BR. C. AFRICA, Zomba (*Johnston*), 1 ♀, Nyasa (*Crawshay*), 1 ♂ 1 ♀, Mandala (*De Jersey*), 1 ♂; PORTUGUESE E. AFRICA, Mackaya (*Kirby*), 1 ♀; BR. S. AFRICA, Salisbury (*Marshall*), 1 ♀, Gadzima (*Marshall*), 1 ♀, Tati (*Schweser*), 1 ♀; ZULULAND (*Angas*), 1 ♂ type; NATAL, Malvern (*Marshall*), 3 ♀. *Exp.* 60–78 millim. Type † *smithii* in Coll. Holland.

*72. *Xanthospilopteryx zenceri*. (Plate LII. fig. 4.)

Xanthospilopteryx zenkeri, Karsch, Ent. Nachr. xxi. p. 350, pl. ii. f. 1 (1895).

♂. Head and thorax black; vertex of head and tegulæ with bluish points; patagia and metathorax with short bluish streaks; abdomen orange slightly tinged with black, a dorsal black and bluish mark at base and the extremity black. Fore wing olive-orange; the base blackish; a black fascia on costa, with four bluish-white spots on basal area, narrowing on medial area; an oblique elliptical black medial spot in and above cell with blue centre; the terminal area black from costa just beyond middle, its inner edge incurved below costa, angled inwards on median nervure, then excurved and running inwards to a point on middle of inner margin: a discoidal blue lunule with a short streak above it; a large somewhat reniform orange postmedial patch from below costa to below vein 3, where it is produced to a hook; a small spot above tornus; cilia

white at apex. Hind wing orange-red, with black terminal band with sinuous inner edge, broad at costa, narrowing to a point at tornus; cilia white.

Hab. CAMEROONS, in Coll. Staudinger. *Exp.* 90 millim.

73. *Xanthospilopteryx longipennis*.

Eusemia longipennis, Wlk. i. 51 (1854); Butl. Ill. Het. B. M. i. p. 10, pl. 5. f. 5; Kirby, Cat. Het. p. 30.

Xanthospilopteryx abacata, Karsch, Ent. Nachr. xviii. p. 181 (1892).

♂. Head and thorax black; sides of palpi and frons, back of head, tegulæ, and patagia with white points; gulæ, coxæ, streaks on femora, and rings on tarsi white; tibiæ with a few orange hairs on outer side; abdomen dull orange, blackish towards base and extremity, the hair blackish. Fore wing with three bluish points below basal part of costa; an orange antemedial spot sometimes present in cell and an elongate spot on inner margin; a bar across end of cell, with streak above it and somewhat quadrate spot below vein 2; a series of elongate spots beyond the cell between veins 8 and 5, a streak above vein 4 with a more rounded spot below its extremity; a spot above tornus; some silvery blue in middle of cell and on discocellulars; cilia white at apex. Hind wing orange-red, black at base; a broad terminal black band with sinuous inner edge, angled above vein 4 and running back on costa to base; cilia white at apex.

♀. Abdomen pale orange, the base and a series of lateral spots black, the ventral surface tinged with black and white. Hind wing with the cilia mostly white.

Hab. ASHANTI, 3 ♂, 1 ♀, type; GERMAN W. AFRICA, Baliburg; CONGO, Kuilu, 1 ♀. *Exp.*, ♂ 92-106, ♀ 82 millim.

*74. *Xanthospilopteryx kirbyi*. (Plate LII. fig. 17.)

Xanthospilopteryx kirbyi, Holl. A. M. N. H. xx. p. 292 (1897).

♂. Black; 1st and 2nd joints of palpi, sides of frons, and vertex of head with white points; tegulæ with two pairs of pale yellow spots; patagia and thorax with some white hairs; legs streaked with white and with some yellow on tibiæ; abdomen brownish orange, the dorsum with some long black hairs, segmental and lateral lines and terminal segment black mixed with yellow hair. Fore wing with three small yellow spots on basal area below the costa, one in cell, two below the cell, and one above vein 1; a medial ochreous-yellow band composed of a streak below costa conjoined to a quadrate patch in cell, conjoined to a large lunulate patch below the cell and an oblique mark on inner area; some silvery-blue scales in the cell before the band and on discocellulars; an oblique post-medial band formed by four elongate spots from below costa to vein 4, with a more rounded spot below vein 4; a small spot above tornus; cilia white at apex. Hind wing ochreous yellow, with diffused black on basal and inner areas; a broad terminal black band expanding

on apical area and running along costa to middle; cilia white at tips.

Ab. 1. Small; fore wing with elongate spot on middle of inner margin, widely separate from the well separated medial spots; hind wing crimson-red with the costal area orange: 60 millim.—Kampala, Coll. Rothschild.

Ab. 2. As last, but hind wing crimson in male, scarlet in female: 82–90 millim.—Unyora, Pt. Alice, Coll. Rothschild.

Hab. "Tropical Africa," type ♂ in Coll. Holland; BR. E. AFRICA, Kampala, Unyora, Pt. Alice (*Ansorge*). *Exp.* 94 millim.

75. *Xanthospilopteryx æmulatrix*.

Eusemia æmulatrix, Westw. Oates' Matabeleland, p. 355 (1881); Mab. Nov.

Lep. pl. ix. f. 3; Kirby, Cat. Het. p. 30.

Xanthospilopteryx lomata, Karsch, Ent. Nachr. xviii. p. 182 (1892).

♀. Head and thorax black; sides of palpi and frons, back of head, tegulæ, and patagia with white points; gulæ, coxæ, streaks on femora, and rings on tarsi white; tibiæ tinged with dull orange; abdomen dull orange. Fore wing black; the basal area with three bluish-white points below costa and two below the cell; a small ochreous triangular antemedial spot in cell, a slight streak above vein 1, and a prominent streak on inner margin; a bar across end of cell and a quadrate spot below base of vein 2; a series of conjoined oblong spots beyond the cell between veins 8 and 5; a longer streak above vein 4, with a rounded spot below its extremity; a spot above tornus; some silvery blue in and below middle of cell and on discocellulars; cilia white at apex. Hind wing orange-red; a terminal black band expanding on apical area and at vein 2 and running along costa to before middle; cilia white at apex.

♂. Fore wing with the orange spots smaller, especially the post-medial spots which are not conjoined.

Hab. GOLD COAST; GERMAN W. AFRICA, Baliburg; Congo, 1 ♀. *Exp.* 74 millim. Type ♂ in Mus. Oxon.

76. *Xanthospilopteryx mons-lunensis*, n. sp. (Plate LIII. fig. 10.)

Head and thorax black; sides of palpi and frons with white spots; back of head, tegulæ, and patagia with yellow spots; gulæ, coxæ, streaks on femora, and rings on tarsi white, tibiæ with orange patches; abdomen dull orange, the hair on dorsum blackish, a lateral series of black spots. Fore wing black, the basal area with three ochreous-yellow spots below costa, one in cell, two below the cell, and two above vein 1; a rather bar-shaped spot across end of cell, and an oblique elliptical spot below base of vein 2; a series of elongate conjoined spots beyond the cell between veins 8 and 4, with a rounded spot below vein 4; a spot above tornus; some silvery-blue scales in middle of cell and on discocellulars; cilia ochreous-yellow at apex. Hind wing ochreous-yellow, with a very slight reddish tinge on inner area; the base black; a terminal black band expanding widely on apical area and at vein 2; cilia ochreous at apex.

Ab. 1. Fore wing with the medial spots conjoined; hind wing scarlet.

Hab. BR. E. AFRICA, Ruwenzori (*Scott-Elliot*), 1 ♂ type, Unyoro (*Ansorge*). *Exp.* 76 millim.

77. *Xanthospilopteryx hypercompoides*.

Xanthospilopteryx hypercompoides, Butl. P. Z. S. 1895, p. 739, pl. 43. f. 5.

♀. Head, thorax, and abdomen black; sides of palpi and frons, back of head, tegulæ, and patagia with ochreous-white spots; gulæ ochreous white; coxæ, tibiæ, and tarsi with white spots, the tibiæ with orange hair on outer side; abdomen with lateral and sublateral series of white points, the extremity orange. Fore wing black; the basal area with small yellow spots below costa and cell and above vein 1; an oblique antemedial band from just below costa to submedian fold, with rounded spot below it; a bar from below costa across end of cell, and a quadrate spot below vein 2; a trifold band beyond the cell from below costa to vein 5, with a wedge-shaped patch between veins 5 and 3 extending nearly to termen; a spot above tornus. Hind wing deep orange; a little black at base of inner margin; a terminal band narrow towards tornus, excised at middle, expanding widely on apical area and on costa not extending to middle.

Hab. BR. E. AFRICA, Ruwenzori (*Scott-Elliot*), 1 ♀ type. *Exp.* 64 millim.

*78. *Xanthospilopteryx melanosoma*. (Plate LIII. fig. 11.)

Xanthospilopteryx melanosoma, Druce, A. M. N. H. (7) vii. p. 433 (1901).

♂. Head, thorax, and abdomen black; 1st and 2nd joints of palpi, sides of frons, and back of head with white points; a white rim behind eyes; tegulæ each with two white points, patagia with one; legs with white points, the tibiæ with orange bands; abdomen with orange dorsal tuft at base and with dorsal, lateral, sublateral, and ventral series of white points. Fore wing black, with white point at base and two below base of costa; an orange point below base of cell and short streak on vein 1; a wedge-shaped orange antemedial patch in cell and elliptical patch below the cell; a somewhat quadrate spot in end of cell and elongate patch below vein 2; a series of elongate spots beyond the cell between veins 8 and 2, those below vein 5 longest, the one above vein 2 extending to cell and suffused with black on its basal part; some blue scales in and below middle of cell and on discocellulars. Hind wing orange-scarlet; a terminal black band moderately broad at apex, narrowing to a point before tornus, its inner edge angled inwards at vein 2; veins 6, 7 streaked with black.

Hab. E. AFRICA, type ♂ in Coll. Druce. *Exp.* 70 millim.

***79. *Xanthospilopteryx nigridora*.**

Eusemia nigridora, Mab. Bull. Soc. Ent. Fr. (6) x. p. cxxiii (1890); id.

Nov. Lep. pl. 9. f. 4; Kirby, Cat. Het. p. 898.

Xanthospilopteryx karschi, Holl. A. M. N. H. (6) xx. p. 292 (1897).

Black; sides of palpi and frons, back of head, tegulæ, and patagia with white points; gulæ, coxæ, and streaks on femora white; tibiæ with a few orange scales above; abdomen with slight orange lateral streaks on basal segments and white points on last four segments, a few orange hairs in anal tuft. Fore wing with three bluish-white spots below base of costa; an oblique orange bar from below costa across end of cell, with a somewhat wedge-shaped spot below it and vein 2; an elongate spot on middle of inner margin; elongate conjoined spots beyond the cell between veins 8 and 5, a longer spot above vein 4, with a somewhat triangular spot below it; cilia tipped with white, wholly white at apex. Hind wing with crimson-red patch extending from costal nervure to inner margin and from before middle to beyond middle, its outer edge slightly waved and angled above vein 4.

Ab. 1. *karschi*. Hind wing with the patch orange-yellow; fore wing with the orange spots larger, an elongate spot above vein 1 before middle, and a small spot above tornus.

Hab. CAMEROONS, Barombi, in Coll. Staudinger. *Exp.* 96 millim.

***80. *Xanthospilopteryx grandis*.**

Eusemia grandis, Druce, Ent. Mo. Mag. xvi. p. 268 (1880); Waterh. Aid. ii. pl. 155. ff. 3, 4; Kirby, Cat. Het. p. 25.

Eusemia buckholzi, Plotz, Stett. ent. Zeit. xli. p. 81 (1880).

Eusemia melanchiton, Mab. Bull. Soc. Ent. Fr. (6) x. p. clxxxiv (1891); Kirby, Cat. Het. p. 899.

Black; sides of palpi and frons, back of head, tegulæ, and patagia with white points; gulæ, coxæ, and streaks on femora white; tibiæ with a few orange scales above; abdomen with some orange in anal tuft. Fore wing with three bluish-white spots below base of costa; an oblique ochreous bar from below costa across end of cell, with a somewhat wedge-shaped spot below it and vein 2; elongate conjoined spots beyond the cell between veins 8 and 5, a longer spot above vein 4, with a somewhat triangular spot below it; a spot above tornus; some silvery blue in middle of cell and on discocellulars; cilia white at apex. Hind wing with the cilia tipped with white, wholly white at apex; the underside with crimson-red patch from near base to beyond middle, ending in streaks on the veins and extending from costal nervure to vein 1.

Hab. CAMEROONS, Barombi, type † *melanchiton* in Coll. Staudinger. *Exp.* 96 millim.

81. *Xanthospilopteryx hornimani*.

Eusemia hornimani, Druce, Ent. Mo. Mag. xvi. p. 269 (1880); Waterh. Aid. ii. pl. 55. f. 15; Kirby, Cat. Het. p. 30.

♀. Black; sides of palpi and frons, back of head, tegulæ, patagia,

and thorax with white spots; gulæ white; pectus, coxæ, femora, and tarsi with white points; tibiæ with orange patches; abdomen black, a little orange hair at base, dorsal, lateral, sublateral, and ventral series of white spots, the anal tuft orange. Fore wing black; a white point below base of costa and yellowish spot on inner margin; a yellowish-white triangular antemedial patch from subcostal nervure to vein 1; a quadrate spot in end of cell, and a somewhat wedge-shaped patch below vein 2; an oblique band beyond the cell between veins 8 and 3 intersected by a black streak on vein 4; a spot above tornus; a silvery-blue spot in middle of cell, some scales below it, and a line on discocellulars. Hind wing yellowish white; a terminal black band narrowing from costa to tornus, the black on costa extending to base.

Ab. 1. Fore wing without black between veins 3, 2 running up to the cell.

Hab. OLD CALABAR, Isubu, 1 ♀; CAMEROONS (*Rutherford*), 1 ♀. *Exp.* 88 millim.

Genus **POLACANTHOPODA**, nov.

Type, *P. tigrina*.

Proboscis fully developed; palpi upturned, the 2nd joint broadly scaled in front, the 3rd short with rough scales in front; frons with rounded prominence and narrowed above; antennæ almost simple, distinctly dilated towards extremity; mid and hind tibiæ spined, the tibiæ fringed with long hair on outer side; abdomen with dorsal tuft on basal segment. Fore wing with vein 3 from near angle of cell, 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from near angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle; male with large lateral tufts of hair at base.

82. *Polacanthopoda tigrina*.

Hespagarista tigrina, Druce, P. Z. S. 1882, p. 778, pl. 60. f. 4; Kirby, Cat. Het. p. 41.



Fig. 248.—*Polacanthopoda tigrina*, ♂. 1.

Head and thorax black; palpi with the 1st joint, extremity of 2nd, and base of 3rd white; sides of frons white; back of head, tegulæ, patagia, and thorax with white points; pectus with orange hair; tibiæ and tarsi with white spots, the hind tibiæ fringed with orange hair; abdomen with the first three segments orange, with dorsal black line, the terminal segments black with white bands.

Fore wing black, a short oblique yellowish-white line from costa near base; a subbasal very oblique line extending to vein 1; a similar antemedial band from below costa, a bar across end of cell; an oblique band beyond the cell with slight yellow line beyond it between veins 8 and 3, expanding towards lower end and with a spot below its extremity; a small yellowish postmedial spot above vein 1; a spot above tornus; a terminal deep chocolate-red band; the base of vein 1 streaked with silvery blue, a line on inner side of subbasal line, an oblique line across middle of cell, a discoidal line, a subterminal line from costa to vein 3, a short postmedial streak on vein 2 and two spots on vein 1; cilia chequered with white towards tornus. Hind wing deep orange; a black terminal band with sinuous inner edge, on costa not extending to middle; cilia chequered black and white; the underside with series of white spots on veins of terminal band.

Hab. OLD CALABAR (*Miss Kingsley*), 1 ♂; CAMEROONS, 4 ♂, 1 ♀. *Exp.* 60 millim.

Genus **ROTHIA**.

Rothia, Westw. Trans. Linn. Soc. Zool. (2) i. p. 204 (1877) Type. *pales*.

Proboscis fully developed; palpi upturned, the 1st and 2nd joints with rather long hair in front, the 3rd well developed, naked, and somewhat porrect; frons with truncate conical prominence with slight raised rim at extremity; antennæ distinctly dilated towards apex; hind tibiæ more or less strongly clothed with rough hair above. Fore wing with veins 3, 4 from angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Fore wing with orange patches or maculate bands.
 - a. Abdomen orange tinged with pink *thruppi*.
 - b. Abdomen banded orange and black.
 - a¹. Abdomen with the ventral surface not banded with orange or yellow.
 - a². Fore wing with the spot below vein 2 placed beyond the spot in end of cell *aisha*.
 - b². Fore wing with the spot below vein 2 placed below the spot in end of cell *butleri*.
 - b³. Abdomen with the ventral surface banded with orange or yellow.
 - a². Abdomen with broad orange bands.
 - a³. Fore wing with a spot placed obliquely below the spot in end of cell *xanthopyga*.
 - b³. Fore wing with medial spot on inner area and no spot below end of cell *pentelia*.
 - b². Abdomen with yellowish-white segmental lines *contigua*.
- B. Fore wing without orange patches or maculate bands.
 - a. Hind wing with crimson patch above *vatersi*.
 - b. Hind wing with crimson or scarlet patch below at base.
 - a¹. Fore wing with yellow medial band.
 - a². Hind wing with the scarlet extending on costa to beyond middle *hypopyrrha*.
 - b². Hind wing with the scarlet not extending on costa to middle *simyra*.

- b*¹. Fore wing with two obliquely placed yellow spots beyond the cell *zea*.
- c*¹. Fore wing with four obliquely placed bluish spots beyond the cell *distigma*.
- c*. Hind wing with orange or yellow patch below at base.
 - a*¹. Hind wing with yellow patch above.
 - a*². Hind wing with the yellow patch on underside extending to base of costa.
 - a*³. Fore wing with oblique band across end of cell ... *virguncula*.
 - b*³. Fore wing with oblique band beyond the cell *vestwoodi*.
 - b*². Hind wing with the yellow patch on underside not extending to costa.
 - a*³. Hind wing with the yellow patch on upperside commencing about middle of wing *agrius*.
 - b*³. Hind wing with the yellow patch on upperside commencing about one-fourth from base *pedasus*.
 - b*¹. Hind wing with bluish patch above.
 - a*². Fore wing with yellowish band just beyond the cell.
 - a*³. Fore wing with the band angled at lower angle of cell, then somewhat erect *tranquilla*.
 - b*³. Fore wing with the band oblique throughout *micropales*.
 - b*². Fore wing with whitish spot in end of cell and maculate band beyond cell *pales*.
- d*. Hind wing without red or yellow basal patch on underside.
 - a*¹. Hind wing with blue-edged white discal patch *lasti*.
 - b*¹. Hind wing without discal patch.
 - a*². Fore wing with oblique yellow band beyond the cell *nigrescens*.
 - b*². Fore wing without oblique yellow band beyond the cell.
 - a*³. Fore wing with small spot beyond end of cell and terminal spot in submedian fold *rheo*.
 - b*³. Fore wing with bar across end of cell and no terminal spot in submedian fold *alluandi*.

83. *Rothia thruppi*. (Plate LIII. fig. 9.)

Eusemia thruppi, Butl. P. Z. S. 1885, p. 775 (1886); Kirby, Cat. Het. p. 29.

Head and thorax black; palpi and sides of frons with white spots; gulæ white; back of head, tegulæ, patagia, meso- and meta-thorax with yellow spots; coxæ and tibiæ with orange patches, the spurs white, tarsi ringed with white; abdomen orange tinged with pink, two dorsal black spots on basal segment, a lateral series of black spots, and the ventral surface black. Fore wing black; three yellow points below basal part of costa, two below the cell, and spots above and below vein 1; an antemedial spot in cell and a triangular spot on inner area; a quadrate patch in end of cell, with a streak from its inner side below costa; a rounded spot below base of vein 2; an oblique postmedial patch between veins 8 and 3, rounded at extremities and with sinuous edges and a spot above tornus; silvery-blue bars across middle of cell and on discocellulars, and diffused silvery blue on basal area, below middle and end of cell, and as spots on veins 2 and 1. Hind wing orange, the inner area tinged with pink; a rather narrow terminal black band with sinuous inner edge angled inwards on vein 2, on costa running

inwards to near middle; underside with black spot at base of costa, the basal area tinged with pink.

Hab. SOMALILAND (*Thrupp*), 1 ♀ type; BR. E. AFRICA, Makindos R. *Exp.* 88 millim.

84. *Rothia aisha*.

Xanthospilopteryx aisha, Kirby, Trans. Ent. Soc. 1891, p. 291, pl. 15. f. 3; Kirby, Cat. Het. p. 898.

Xanthospilopteryx catarhodia, Holl. in Donaldson Smith's 'Unknown African Countries,' p. 409, f. 7 (1898).

♀. Head and thorax black; palpi at sides, sides of frons, back of head, tegulæ, patagia, meso- and metathorax with ochreous spots; coxæ, tibiæ, and tarsi with orange bands; abdomen black, with dorsal and lateral orange bands and the extremity orange. Fore wing black; three orange points below basal part of costa, two below the cell, and one above vein 1; antemedial spots in cell and above vein 1; a large spot in end of cell, a quadrate spot below base of vein 2, and a small spot on middle of inner margin; an oblique band beyond the cell between veins 8 and 3, constricted at middle and with rounded extremities; a spot above tornus; some silvery blue in and below cell near base, a bar in middle of cell and another on discocellulars, a streak below middle of cell, and post-medial spots on veins 2 and 1; cilia yellowish at apex. Hind wing scarlet; a little black at base of inner margin; a terminal black band with sinuous inner edge, angled inwards at vein 2 and on costa running inwards to near middle; cilia orange at apex.

Hab. BR. E. AFRICA, Masailand, 1 ♀ type. *Exp.* 60 millim.

85. *Rothia butleri*. (Plate LIII. fig. 13.)

Eusemia butleri, Wlk. Char. Lep. Het. p. 111 (1869); Kirby, Cat. Het. p. 30.

Head and thorax black; sides of palpi and frons, back of head, tegulæ, patagia, and thorax with white spots; gulæ yellow; coxæ and the greater part of tibiæ orange; tarsi with yellowish rings; abdomen black, with dorsal orange bands and the extremity of anal tuft orange, a slight sublateral series of white points. Fore wing black; two yellowish points below base of costa and two below the cell; an antemedial spot in cell and slight spot above vein 1; a quadrate spot in end of cell, conjoined to a spot below the cell; an oblique band beyond the cell between veins 8 and 3, with rounded extremities and a spot above tornus; some silvery blue in and below cell near base, in and below middle of cell and above vein 1, a discoidal bar, and spots on veins 2 and 1; cilia yellow at apex. Hind wing crimson-red, with black terminal band, angled inwards on vein 2, expanding on apical area and on costa not reaching middle; cilia orange-tipped at apex in male.

Hab. NATAL, 2 ♀, Maritzburg (*Miss C. Heaton, Dobree*), 1 ♂, 1 ♀. *Exp.*, ♂ 50, ♀ 62 millim.

Subsp. 1. *adulatrix*, Westw. Oates' Matabeleland, p. 355, pl. G. f. 1; Kirby, Cat. Het. p. 29.

Abdomen with the white sublateral points absent in the Nyasaland specimen; fore wing with the orange markings larger, the spot below the cell large and wedge-shaped, especially in the Nyasaland specimen.

Hab. BR. C. AFRICA, Stevenson Rd. (*Dewar*), 1 ♂; MATABELELAND, type † ♂ in Mus. Oxon. *Exp.* ♂ 60 millim.

*86. *Rothia xanthopyga*.

Eusemia xanthopyga, Mab. Bull. Soc. Ent. Fr. (6) x. p. cxxiv (1890); id. Nov. Lep. p. 50, pl. 8. f. 1 (1892); Kirby, Cat. Het. p. 899.

♂. Head and thorax black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, patagia, pro- meso- and metathorax with yellowish-white spots; fore coxæ, femora, and tibiæ orange, tarsi with whitish bands; abdomen black with orange bands, the anal tuft orange except at base, the ventral surface with ill-defined yellowish-white bands. Fore wing with small patches of silvery-blue scales near base below costa and above vein 1, before middle below costa, in and below cell and above vein 1, and as a postmedial line represented by a discoidal bar and a line from vein 2 to inner margin; two yellowish subbasal points below costa; orange antemedial spots in cell and above vein 1; a quadrate spot in end of cell conjoined to a somewhat wedge-shaped spot below base of vein 2, with a spot below it on inner margin; an oblique postmedial band from below costa to vein 3 and a spot above tornus; cilia orange at apex. Hind wing crimson, with black terminal band narrowing to a point at tornus; cilia yellowish at apex.

Hab. ZANZIBAR, type † ♂ in Coll. Mabilie. *Exp.* 56 millim.

87. *Rothia pentelia*. (Plate LIII. fig. 1.)

Eusemia pentelia, Druce, P. Z. S. 1887, p. 668; Kirby, Cat. Het. p. 30.

♂. Head and thorax black; sides of palpi and frons, back of head, tegulæ, patagia, and thorax with yellowish-white spots; gulæ yellowish; coxæ, femora, and tibiæ with orange hair; tarsi ringed with white; abdomen black banded with orange, the extremity orange, the three terminal segments with the bands reduced to spots on ventral surface. Fore wing black; two ochreous-white points below base of costa; antemedial ochreous spots in cell and above vein 1; a bar across end of cell and a rounded patch on inner area; a patch beyond the cell between veins 8 and 2, with rounded extremities and its inner edge concave; a spot above tornus; silvery blue bars in middle of cell and on discocellulars. Hind wing scarlet, with black terminal band, its inner edge sinuous and excised at middle, on costa not extending to middle.

Hab. DELAGOA BAY (*Mrs. Monteiro*), 1 ♂. *Exp.* 54 millim.

88. *Rothia contigua*.

Eusemia contigua, Wlk. i. 50 (1854); Butl. Ill. Het. B. M. i. p. 10, pl. 4. f. 8; Kirby, Cat. Het. p. 29.
Mitrophrys fabricata, Karsch, Ent. Nachr. xxi. p. 355, pl. 11. f. 4 (1895).

♂. Head, thorax, and abdomen black; 1st joint of palpi and extremity of 2nd joint with white hair; sides of frons, tegulæ, patagia, thorax, and legs with white spots; gulæ white; hind tibiæ fringed with yellowish hair; abdomen with segmental yellowish rings. Fore wing black-brown; three white points at base; a very oblique antemedial yellow band from subcostal nervure to above vein 1; a small spot in upper end of cell; an oblique band beyond the cell between veins 8 and 2, its inner side indented at vein 3; a small spot above tornus; a silvery-blue point below costa near base, and another point below the cell; an oblique line in middle of cell and discoidal line, a streak on vein 2 to beyond middle, and a postmedial streak on vein 1; cilia ochreous at apex. Hind wing crimson-red; a rather broad terminal black-brown band with slightly sinuous inner edge; cilia tipped with white; the underside with the veins streaked with white on the terminal band.

Hab. ignotus, 1 ♂ type; W. AFRICA, Lr. Guinea. *Exp.* 54 millim.

89. *Rothia vatersi*. (Plate LIII. fig. 6.)

Eusemia watersii, Butl. A. M. N. H. (5) xiv. p. 409 (1884); Kirby, Cat. Het. p. 24.

♂. Head and thorax black; palpi at base and extremity of 2nd joint, sides of frons, and spots on vertex of head, tegulæ, and patagia pale yellow; pectus and legs orange, the tarsi mostly dark; abdomen orange, with dorsal segmental black lines, the base and terminal segment black, the extremity of anal tuft orange. Fore wing very deep red-brown; a yellow point below base of costa; an oblique postmedial yellow band with waved edges from below costa to vein 1. Hind wing scarlet, the basal and costal areas deep brown; the terminal area deep brown, expanding widely towards costa. Underside of fore wing with some yellow at base.

Hab. MADAGASCAR, Betsileo (*Waters*), 1 ♂ type. *Exp.* 60 millim.

90. *Rothia hypopyrrha*. (Plate LIII. fig. 8.)

Eusemia hypopyrrha, Butl. Cist. Ent. ii. p. 297 (1878); Kirby, Cat. Het. p. 26.

Black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, and patagia with small yellow spots; pectus and legs orange, the tarsi mostly black; abdomen with lateral orange bands and the ventral surface orange. Fore wing with two small yellow spots below base of costa; a broad bright sulphur-yellow band in and beyond end of cell from below costa to just above inner margin beyond middle. Underside of fore wing with the base orange.

Hind wing scarlet, with a terminal black-brown band rather broad at costa, narrowing to a point at tornus.

Hab. MADAGASCAR, Fianarantsoa (*Joy, Shaw*), 1 ♂, 1 ♀ type. *Exp.* 84 millim.

*91. *Rothia simyra*. (Plate LIII. fig. 12.)

Rothia simyra, Westw. Trans. Linn. Soc., Zool. (2) i. p. 204 (1877); Kirby, Cat. Het. p. 25.

♂. Black-brown: 2nd and 3rd joints of palpi and back of head with yellow spots; sides of frons and gulæ yellow; tegulæ, shoulders, and patagia with yellow spots; pectus and legs orange; abdomen with orange lateral bands becoming slight segmental lines on dorsum, the ventral surface orange. Fore wing with slightly oblique orange-yellow medial band from just below costa to above inner margin, expanding towards lower extremity and with irregular edges; cilia white at apex of both wings. Underside of fore wing with the base orange, emitting short streaks on subcostal and median nervures and a streak to the medial band on inner margin. Hind wing with a scarlet patch becoming orange on costal area and at base, and extending from costa before middle to inner margin just above tornus, its outer edge strongly curved.

Hab. MADAGASCAR, type † ♂ in Mus. Oxon. *Exp.* 72 millim.

92. *Rothia zea*.

Agarista zea, Herr.-Schäff. Aussereur. Schmett. ff. 34, 35 (1853); Kirby, Cat. Het. p. 24.

Black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, and patagia with small pale yellow spots; antennæ annulated with white; pectus and legs orange, the tibiæ and tarsi irrorated with black; abdomen dorsally black, ventrally orange, black lateral bands meeting ventrally on terminal segments. Fore wing with two small pale yellow spots below base of costa, an antemedial spot in cell, a spot in end of cell, a spot beyond upper angle, and a spot beyond lower angle between veins 5 and 2; some silvery-blue scales above base of vein 1, below costa before middle, in middle of cell, and on discocellulars; cilia white at apex and above tornus, and with white points between. Hind wing with the cilia chequered white and black. Underside of fore wing with some orange at base; hind wing crimson, with terminal black band very broad at costa, narrowing to a point at tornus.

Hab. MADAGASCAR, Betsileo, Morondava, 5 ♂, 1 ♀. *Exp.* 60–68 millim.

*93. *Rothia distigma*. (Plate LIII. fig. 12.)

Agarista distigma, Mab. Ann. Soc. Ent. Fr. 1897, p. 219.

♀. Black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, patagia, and mesothorax with pale yellow points;

pectus and legs, except mid and hind tarsi, above orange; abdomen with slight segmental orange lines, the ventral surface orange. Fore wing with some silvery-blue scales on basal area; two or three yellow points below base of costa; a small antemedial spot in cell and another near extremity; four rather obliquely placed spots beyond the cell between veins 7 and 3, the spot above vein 4 more elongate; cilia white at apex. Hind wing with large rounded bluish-yellow patch in, beyond, and below cell, its outer edge somewhat crenulate; cilia white at apex. Underside of fore wing with the base orange except at costa, its outer edge sinuous, the post-medial maculate band with bluish outer edge extending to vein 2; hind wing crimson except terminal area, the crimson not extending on costa to middle, thence obliquely rounded and sinuous to tornus.

Hab. MADAGASCAR, type ♀ in Coll. Mabille. *Exp.* 74 millim.

94. *Rothia virguncula*. (Plate LIII. fig. 7.)

Eusemia virguncula, Mab. Bull. Soc. Philom. (7) iii. p. 136 (1879); Kirby, Cat. Het. p. 25.

Eusemia metagrius, Butl. A. M. N. H. (5) v. p. 339 (1880).

♂. Black-brown; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, and patagia with small yellow spots; a yellow rim behind eyes; pectus and legs orange-yellow, the tibiæ and tarsi irrorated with black; abdomen with lateral orange lines and the ventral surface orange. Fore wing with oblique rather irregular pale yellow band from below costa at end of cell to vein 1 near tornus. Hind wing with yellow patch in, beyond, and below end of cell, its outer edge excurved between veins 5 and 3. Underside of fore wing with some orange at base; hind wing with the basal area yellow, orange on costa and inner margin, its outer edge crenulate, oblique from costa before middle to vein 5, where it is angled, and ending at tornus.

Hab. MADAGASCAR, Betsileo (*Cowan*), 2 ♂, type *metagrius*. *Exp.* 58 millim.

95. *Rothia vestwoodi*. (Plate LIII. fig. 5.)

Rothia westwoodii, Butl. A. M. N. H. (5) iv. p. 235 (1879); Kirby, Cat. Het. p. 25.

♂. Black; palpi at base and extremity of 2nd joint, sides of frons, and back of head with pale yellow spots; gulæ yellow; pectus and hair on femora orange; abdomen with slight yellow segmental lines, the ventral surface orange. Fore wing with oblique pale yellow band beyond the cell from vein 7 to 2, dilated below vein 5. Hind wing with somewhat quadrate pale yellow patch from costa before middle to middle of vein 2. Underside with the base of both wings orange, extending on costa of hind wing to near middle and on inner area to beyond middle.

Hab. MADAGASCAR, Antananarivo (*Kingdon*), 4 ♂ type. *Exp.* 40 millim.

*96. *Rothia agrius*.

Agarista agrius, Herr.-Schäff. Aussereur. Schmett. f. 33 (1853); Kirby, Cat. Het. p. 25.

♂. Black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulae, and patagia with small yellowish spots; yellowish rims behind the eyes; pectus and legs orange-yellow, the tibiae irrorated with black, the tarsi black; abdomen with slight orange segmental lines, the ventral surface orange except the last two segments. Fore wing with oblique yellowish-white band just beyond the cell from vein 7 to just above 1, its edges irregular and dentate outwards above vein 4; cilia white at apex. Hind wing with rather broad medial yellowish-white band from upper angle of cell to inner margin, with some bluish-white suffusion beyond it on inner area; cilia slightly mixed with white at apex. Underside of fore wing with some orange hair at base; white spots in middle and end of cell; hind wing with yellowish-white patch on basal area not extending above costal nervure, its outer edge crenulate.

Hab. MADAGASCAR, in Coll. Mabille. *Exp.* 64 millim.

*97. *Rothia pedasus*.

Agarista pedasus, Herr.-Schäff. Aussereur. Schmett. f. 32 (1853); Kirby, Cat. Het. p. 25.

Rothia simplex, Roths. Nov. Zool. iii. p. 44, pl. 14. f. 18 (1896).

♂. Black; palpi orange at base, the 1st and 2nd joints with pale yellow spots; sides of frons with orange spots; a yellow rim behind eyes; tegulae, patagia, and mesothorax with yellow points; pectus and legs orange; tibiae and tarsi streaked with black; abdomen orange, with segmental dorsal black lines and spots and sublateral points, the two last segments black. Fore wing with wedge-shaped yellowish-white spot in end of cell; an oblique band beyond the cell between veins 8 and 2, expanding below and with its outer edge indented above vein 5; cilia white at apex and above tornus. Hind wing with large pale yellowish patch from below costa to inner margin and from one fourth from base to near tornus, its outer edge crenulate and with some bluish on it on inner area; cilia white at apex and above tornus. Underside of fore wing with some yellowish streaks and orange points at base; hind wing with the yellow extending to base, which is orange.

♀. Abdomen with slight dorsal black points only, the terminal segment with larger spot and the anal tuft black; fore wing without the yellow spot in cell; both wings with the cilia black above tornus.

Hab. MADAGASCAR, Morondava, type ♂ ♀ *simplex* in Coll. Rothschild. *Exp.* 70 millim.

98. *Rothia tranquilla*. (Plate LIII. fig. 19.)

Eusemia tranquilla, Butl. A. M. N. H. (5) v. p. 340 (1880); Kirby, Cat. Het. p. 25.

Agarista epipales, Mab. C. R. Soc. Ent. Belge, xxviii. p. clxxxix (1884); Kirby, Cat. Het. p. 25.

♂. Black-brown; 1st and 2nd joints of palpi, sides of frons, back of head, and tegulæ with small pale yellow spots; pectus and legs orange, the tibiæ and tarsi irrorated with black; abdomen with traces of orange segmental lines, the ventral surface orange; anal tuft orange at tips. Fore wing with rather oblique yellow band with somewhat irregular edges from below costa at end of cell to vein 1 near tornus. Hind wing slightly shot with blue; a pale blue-green patch in and beyond end of cell, extending from subcostal nervure to near tornus, and with a patch of orange scales on it in end of cell. Underside of fore wing orange at base; hind wing with the basal area orange, its outer edge running obliquely from costa before middle to vein 5, where it is angled, then to tornus.

Ab. 1. *epipales*. Fore wing with the band narrower and not extending below vein 2.

Hab. MADAGASCAR, Betsileo (*Cowan*), 2 ♂ type. *Exp.* 56 millim.

99. *Rothia micropales*. (Plate LIII. fig. 17.)

Rothia micropales, Butl. A. M. N. H. (5) iv. p. 235 (1879); Kirby, Cat. Het. p. 25.

♀. Black-brown; palpi with white spot at extremity of 2nd joint in front; sides of frons, gulæ, and spots on tegulæ and patagia pale yellow; pectus and legs orange, the latter streaked with black; abdomen with the ventral surface orange. Fore wing with oblique yellowish-white band beyond the cell from vein 11 to above 1, rounded below. Hind wing with large patch in, below, and beyond lower end of cell, with yellowish-white centre and pale bluish circumference. Underside of fore wing orange at base; hind wing orange, with black-brown terminal band with waved inner edge, expanding on apical area and extending to middle of costa.

Hab. MADAGASCAR, Antananarivo (*Kingdon*), 1 ♀ type. *Exp.* 44 millim.

*100. *Rothia pales*.

Agarista pales, Guér. Icon. R. Anim., Ins. p. 493, pl. 83. f. 1 (1844); Boisd. Faune Ent. Mad. p. 70, pl. 10. ff. 1, 2; Kirby, Cat. Het. p. 25.

♂. Black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, patagia, and metathorax with yellowish-white spots; a yellowish rim behind the eyes; pectus and legs except tarsi above orange; abdomen with segmental orange lines, the ventral surface with the basal half orange, the terminal segments with bands, the extremity orange. Fore wing with whitish spot in cell near its extremity; an oblique maculate band beyond the cell

between veins 7 and 2, with the spot above vein 4 more elongate; cilia white at apex. Hind wing with large rounded bluish patch in, beyond, and below cell, its inner edge indented in submedian fold; cilia white at apex. Underside of fore wing with the basal



Fig. 249.—*Rothia pales*, ♂. 1.

area orange except at costa, its outer edge oblique; hind wing orange, with the terminal area black, the orange on costa not extending to middle, thence obliquely rounded and sinuous to tornus.

Hab. MADAGASCAR, in Coll. Mabille. *Exp.* 72 millim.

101. *Rothia lasti*. (Plate LII. fig. 15.)

Rothia lasti, Roths. Nov. Zool. iii. p. 45 (1896).

♂. Black; palpi at extremity of 1st and 2nd joints, sides of frons, back of head, and tegulæ at each side with yellowish-white spots; gulæ yellowish white; pectus and hair on legs orange. Fore wing with traces of blue points on basal area; an antemedial white spot in cell, a rather larger spot in middle of cell; a band beyond the cell between veins 7 and 2, expanding and with its outer edge crenulate below vein 1, its inner edge bent outwards below vein 2. Hind wing with large rounded white patch on disk between vein 6 and submedian fold, its outer edge crenulate and tinged with purplish blue.

Hab. MADAGASCAR, Morondava, 1 ♂. *Exp.* 44 millim.

*102. *Rothia nigrescens*.

Rothia nigrescens, Roths. Nov. Zool. iii. p. 45, pl. 15. f. 32 (1896).

♂. Black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, and patagia with pale yellow spots; a yellow rim behind eyes; pectus, legs except fore tibiæ above and tarsi, and ventral surface of abdomen orange. Fore wing with oblique pale yellow band just beyond the cell from below costa to vein 1 with

irregular edges; an antemedial point in cell; some silvery-blue scales on basal area below costa and above vein 1 and in middle of cell; cilia white-tipped at apex. Hind wing with the cilia chequered pale yellow and black. Underside with some orange at base of both wings.

Hab. MADAGASCAR, Morondava, type † ♂ in Coll. Rothschild. *Exp.* 60 millim.

*103. *Rothia rhæo*. (Plate LIV. fig. 16.)

Agarista rhæo, Druce, A. M. N. H. (6) xiv. p. 22 (1894).

♂. Black; vertex of head and shoulders with white points. Fore wing with antemedial yellowish-white point in cell, with a small spot just beyond it below the cell and another above origin of vein 2; a small quadrate spot in end of cell and a quadrate spot below the end; a terminal spot in submedian fold; cilia white at apex. Hind wing with terminal yellowish-white band between veins 3 and 1; cilia white at apex.

Hab. MADAGASCAR, type † ♂ in Coll. Druce. *Exp.* 36 millim.

*104. *Rothia alluaudi*. (Plate LIV. fig. 15.)

Phalænoides alluaudi, Mab. Ann. Soc. Ent. Fr. 1897, p. 219.

♀. Black; 1st and 2nd joints of palpi, sides of frons, back of head, tegulæ, and patagia with yellowish-white spots; a yellowish rim behind the eyes; pectus, femora, and tibiæ clothed with orange hair. Fore wing with a yellowish point followed by some silvery-blue scales below basal part of costa; a small spot in base of cell, a bar across its middle, a large quadrate spot beyond upper angle, and a still larger elliptical spot beyond lower angle. Hind wing with yellowish-white patch on termen towards tornus.

Hab. MADAGASCAR, type † ♀ in very bad condition in Coll. Mabile. *Exp.* 42 millim.

Genus **VEYMERIA**.

Weymeria, Karsch, Ent. Nachr. xxi. p. 347 (1895) Type.
athene.

Proboscis fully developed; palpi oblique, the 1st joint fringed with long hair, the 2nd nearly smoothly scaled, the 3rd long, naked, and porrect; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple, slightly dilated towards extremity; tibiæ fringed with rough hair. Fore wing with vein 3 from near angle of cell; 5 from well above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6 from upper angle.

*105. *Veymeria athene*.

Xanthospilopteryx athene, Weymer, Stett. ent. Zeit. liii. p. 101 (1892)
Karsch, Ent. Nachr. xxi. pl. 1. f. 4.

♀. Head black; palpi with the 1st joint fringed with orange

hair; frons with white spots at sides and orange spot below frontal prominence; thorax orange, with black lateral spots on tegulæ; pectus and legs black; throat orange; the coxæ and spots on tibiæ and tarsi white; abdomen orange, with dorsal series of black spots, the last two segments and ventral surface banded black and white. Fore wing orange, tinged with red on basal inner area; the costal



Fig. 250.—*Veymeria athene*, ♀. $\frac{1}{2}$.

and terminal areas black, the inner edge of latter running obliquely from below middle of costa to submedian fold near termen, then erect; a large somewhat quadrate pale orange postmedial spot below costa, an oval spot between veins 3 and 5, and small spots on veins 2 and 1; cilia white at apex. Hind wing orange, tinged with red towards base; a broad terminal black band with sinuous inner edge, small subterminal pale orange spots on veins 6, 4, 2, 1; cilia white at apex and towards tornus.

Hab. GERM. E. AFRICA, Tanganyika, in Coll. Rothschild. *Exp.* 62 millim.

Genus ARROTHIA.

Arrothia, Jord. Nov. Zool. iii. p. 46 (1896)..... Type. *bicolor*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with sparse long hair in front, the 3rd long, naked, and somewhat porrect; frons with long corneous spine truncate at extremity; antennæ of female nearly simple, distinctly dilated towards extremity; tibiæ fringed with rough hair above. Fore wing with veins 3 and 5 from near angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the aerole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

*106. *Arrothia bicolor*.

Arrothia bicolor, Roths. Nov. Zool. iii. p. 46, pl. 14. f. 20 (1896).

♀. Head black; thorax orange fulvous; abdomen orange; pectus, legs, last two segments of abdomen and ventral surface black. Fore wing with the basal half orange, the basal area being black overlaid

with orange-fulvous scales; the outer half black, its inner edge oblique from costa to below angle of cell. Hind wing with the



Fig. 251.—*Arrothia bicolor*, ♀. 1.

basal half orange with some black scales at base; the terminal half black, somewhat diffused basally on the veins.

Hab. MADAGASCAR, Morondava, type ♀ in Coll. Rothschild. *Exp.* 44 millim.

Genus ARCTIOPAIS.

Type.

Arctiopais, Jord. Nov. Zool. iii. p. 46 (1896) *ambusta*.

Proboscis fully developed; palpi with the 2nd joint upturned, fringed with long hair in front, the 3rd very long, naked, porrect; frons narrowed behind in male, with truncate conical prominence with raised rim at extremity; antennæ almost simple, distinctly dilated towards extremity; fore tibiæ fringed with long hair on outer side; mid and hind tibiæ fringed with long hair, and in male also the spurs and tarsi of hind legs. Fore wing with vein 3 from close to angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

107. *Arctiopais ambusta*.

Hypsa ambusta, Mab. C. R. Soc. Ent. Belge, xxv. pl. lv. (1881); Kirby, Cat. Het. p. 384.

♀. Orange; 3rd joint of palpi, antennæ, and tarsi black; abdomen with the terminal segment black. Fore wing with a few silvery scales

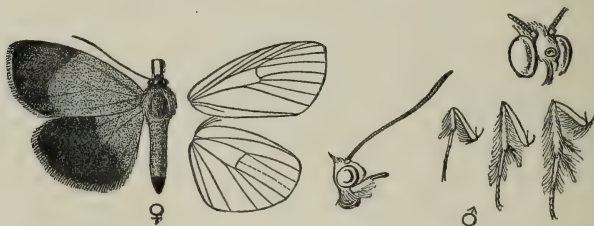


Fig. 252.—*Arctiopais ambusta*, ♀. 1.

below basal part of costa, an irregular obliquely curved interrupted antemedial line with spots beyond it in cell and above vein 1; an

indistinct postmedial blackish line with silver beyond it, oblique from costa to vein 4, then excurved to submedian fold and incurved to inner margin, the area beyond it suffused with deep red-brown with a paler mark above tornus; the costa and termen black; cilia leaden grey. Hind wing with the terminal half black, its inner edge oblique and slightly angled outwards beyond lower angle of cell; cilia leaden grey.

♂. Abdomen with black dorsal patch on terminal segment; fore wing without dark suffusion beyond the postmedial line.

Hab. MADAGASCAR, 1 ♀. *Exp.* 44 millim.

Genus CHARILINA.

Charilina, Wlk. ii. 560 (1854) Type. *amabilis*.

Proboscis fully developed; palpi obliquely upturned, the 2nd joint fringed with hair becoming long at extremity, the 3rd long, naked, and porrect; frons with truncate conical prominence with raised rim at extremity; antennæ almost simple, slightly dilated towards extremity; tibiæ fringed with long hair above. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from below upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

108. *Charilina amabilis*.

Agocera amabilis, Drury, Ill. Ex. Ent. ii. pl. 13. f. 3 (1773); Boisd. Spéc.

Gén. Léop. i. pl. 14. f. 6; Kirby, Cat. Het. p. 40.

Noctua alienata, Fabr. Ent. Syst. (3) ii. p. 60 (1794).

Charilina intercis, Feld. Reis. Nov. pl. 107. f. 17 (1874).

Head, tegulæ, and patagia orange; a spot on 2nd joint of palpi, the 3rd joint, sides of frons, and antennæ black; tegulæ with black stripes; thorax pale yellow; pectus and legs orange, the fore and mid tibiæ above and tarsi black; abdomen orange, with black segmental lines. Fore wing deep red; the costa black; the basal area pale yellow, traversed by two obliquely sinuous black lines, a



Fig. 253.—*Charilina amabilis*, ♂. 1.

streak on vein 1 and with a black outer edge, the yellow produced along inner margin to beyond middle; a rounded or quadrate black-edged yellow spot in end of cell, and a larger irregular spot below it with another spot just beyond it; a postmedial spot below costa, with quadridentate mark beyond it and larger spot below it, with two small spots beyond it and one below it; two silvery antemedial

spots in cell, one below the cell and a streak on vein 1, a discoidal bar and spots on outer edge of the postmedial spots; cilia blackish, with a pale line through them. Hind wing orange, with black discoidal spot and terminal band angled inwards at veins 5 and 2.

Ab. 1. Fore wing with the basal yellow area conjoined at costa to the medial spot.—Abyssinia.

Ab. 2. Fore wing with the black markings on basal half almost obsolete.—Nyasa.

Ab. 3. Fore wing with all the black markings obsolete.—Accra.

Ab. 4. *intercisa*. Larger; fore wing with the black markings more strongly developed.—Erithrea: Br. E. Africa.

Hab. SIERRA LEONE (*Foxcroft*), 1 ♀; GOLD COAST, Accra (*Carter*), 1 ♂, 1 ♀; SUDAN, White Nile, Gebt el Meghadid (*Dunn*), 3 ♀; ERITHREA, Bogos; ABYSSINIA, Atbara, 1 ♂; BR. E. AFRICA, N'Gatana (*Gregory*), 3 ♂, Kampala (*Scott-Elliot*), 1 ♂, Uganda (*Ansorge*), 1 ♀, Machakos (*Crawshay*), 1 ♂; NYASALAND, Deep Bay (*Crawshay*), 2 ♂, Zomba (*Johnston*), 2 ♂; NATAL, Manini R. (*Marshall*), 1 ♀. *Exp.* 30–46 millim.

Genus PAIDA.

Type.

Paida, Jord. Nov. Zool. iii. p. 47 (1896)..... *pulchra*.

Proboscis fully developed; palpi oblique, the 2nd joint fringed with short hair, the 3rd long and nearly naked; frons with long corneous spine and flattened plate below it excised in front; antennæ almost simple, distinctly dilated towards extremity; hind tibiæ fringed with long hair; abdomen of male with long lateral tufts of hair on terminal segments. Fore wing with vein 3 from near angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle; male with the inner margin and tornus fringed with very long hair and some long hairs on the veins of underside of both wings.

*109. *Paida pulchra*.

Pais pulchra, Trimen, Trans. Ent. Soc. (3) i. p. 524 (1863), ♀; Kirby, Cat. Het. p. 41.

Pais gordonii, Butl. Ent. Mo. Mag. xvi. p. 10 (1879), ♂; Kirby, Cat. Het. p. 41.



Fig. 254.—*Paida pulchra*, ♂. $\frac{1}{2}$.

♂. Head whitish; palpi above and 3rd joint, frons at sides, a stripe on frons, and vertex of head and antennæ black; tegulæ with black stripes at middle and sides; patagia edged with black and with orange hair on upper edge; thorax black and white; pectus

and legs white and orange, the latter banded with black; abdomen orange and white, with dorsal black bands and lateral and sublateral series of points. Fore wing yellowish white; the costal and inner margins irrorated with black; a deep red stripe in submedian fold from near base to postmedial line; a subbasal black line from costa to median nervure; a double antemedial oblique line interrupted at the red stripe, then sinuous; black-edged and centred ocelli in and below middle of cell, with a few blue scales on their middles; a similar large reniform discoidal spot; the postmedial line angled inwards at vein 5, below vein 3 retracted to the reniform spot, then sinuous, a waved deep red line beyond it, and black streaks in the interspaces of terminal area; cilia black, the tips whitish. Hind wing orange suffused with red; a diffused discoidal lunule, the terminal area red with orange spots on termen; cilia black at base, yellowish at tips; the long hair on inner margin yellowish.

♀. Hind wing bright orange, with black discoidal bar; a waved black subterminal line connected with termen by streaks in the interspaces; cilia black, orange at tips.

Hab. GERMAN S.W. AFRICA, Damaraland; TRANSVAAL, Pretoria (*Distant*); NATAL, Tugela R. (*Lorimer*), 3 ♂, type *gordonii*, Estcourt (*Hutchinson*), 2 ♂, (*Leigh*) 1 ♀. *Exp.* 42 millim.

Genus PSEUDOSPIRIS.

Pseudospiris, Butl. P. Z. S. 1895, p. 267 *paidiformis*. Type.

Proboscis fully developed; palpi porrect, clothed with rough scales and not reaching as far as frons, which has a truncate conical prominence excised in front and with a flat corneous plate below it with rounded outer edge; antennæ of male simple, distinctly dilated towards extremity; fore tibiæ with a curved spine at extremity on outer side; the spurs moderate; abdomen with slight lateral tufts of hair on terminal segments, the claspers of male large and covered by the large anal tuft. Fore wing narrow, produced at apex; vein 3 from well before angle of cell; 4, 5 from angle; 6, 7, 8, 9 stalked; 10 from cell rarely anastomosing or stalked with 6, 7, 8, 9; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 stalked; 8 free at base, then anastomosing with the cell to near extremity; the inner area clothed above with long hair, in male being extremely long.

110. *Pseudospiris paidiformis*.

Pseudospiris paidiformis, Butl. P. Z. S. 1895, p. 267, pl. xv. ff. 8 9.

♂. Head and thorax ochreous; palpi at tips, frontal prominence, a spot on vertex of head, edges of tegulæ and patagia, and spot on meso- and metathorax black; legs banded with black; abdomen orange-yellow with black segmental lines. Fore wing ochreous; the costal edge black at base; a subcostal streak from antemedial line to apex; an oblique subbasal black line from costa to vein 1 on which there is a short streak; a small black spot in base of cell; elliptical deep red spots below costa and cell, the latter with an oblique line from its outer edge to vein 1; an oblique sinuous antemedial black line; a large oblique elliptical black-edged annulus in middle of cell, with a similar one

below it and a similar but somewhat S-shaped discoidal mark conjoined to the subcostal fascia; an oblique sinuous postmedial black line, with a similar deep red narrow band edged by silvery scales beyond it; a deep red fascia on inner margin from near base to near tornus; a few silvery scales on the subbasal red spots and the



Fig. 255.—*Pseudospiris paidiformis*, ♂. †.

annulate marks; the veins of terminal area strongly striped with black; cilia black at base. Hind wing deep red with obscure discoidal black lunule, more distinct on underside; the termen and cilia black, rather widely at apex, narrowing to vein 1.

♀. Hind wing orange, the inner area tinged with red; a large black discoidal bar; a broad terminal black band with slightly waved inner edge, and a series of more or less developed orange spots in the interspaces from apex to submedian fold; cilia yellow at tips.

Hab. BR. C. AFRICA, Stephenson Rd. (*Dewar*), 1 ♂, Fwambo (*Carson*), 1 ♂, 2 ♀, type. *Exp.*, ♂ 50, ♀ 54 millim.

Genus PAIS.

<i>Pais</i> , Hübn. Verz. p. 279 (1827)	Type. <i>decora</i> .
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Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd moderate, porrect, clothed with rough hair; frons with truncate conical prominence with raised rim at extremity; antennæ almost simple, strongly dilated, then tapering to extremity; tibiæ slightly fringed with hair above. Fore wing with vein 3 from near angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

111. *Pais decora*.

Noctua decora, Linn. Mus. Utr. p. 382 (1764); Cram. Pap. Exot. iii. pl. 219, F, G; Kirby, Cat. Het. p. 40.

Noctua julia, Cram. Pap. Exot. i. pl. 7, E, F (1775).

Brepha dubia, Hübn. Samml. Ex. Schmett. i. (1827).

Pais moldænkei, Dew. Verh. L. C. Ac. xlii. p. 65, pl. 2. f. 15 (1881); Kirby, Cat. Het. p. 41.

Head and thorax black; palpi with the 2nd joint in front, sides of frons, gulæ, and edges of tegulæ and patagia ochreous; fore

coxe in front, the tibiæ, and rings on tarsi ochreous; abdomen orange, with black bands and dorsal spots, the ventral surface black with pale bands. Fore wing ochreous, often more or less irrorated with black; the costa and inner margin black; two oblique black subbasal lines, the outer ending in a black-edged deep red spot below the cell; an antemedial black line incurved in cell, strongly excurved below it; a black-edged deep red figure-of-eight-shaped medial spot in and below cell, each division often with ochreous spot on it; a black-edged elliptical discoidal spot with red centre, with small ochreous spots above and below it, and with a red streak from its lower extremity to the subterminal band; the postmedial



Fig. 256.—*Pais decora*, ♂. 1.

black line dentate inwards to the discoidal spot at vein 5, below vein 3 retracted to lower edge of discoidal spot, then obliquely waved to inner margin; a sinuous red subterminal band, dentate inwards at vein 5, and connected with the black terminal line by streaks on the veins; cilia ochreous, intersected with black. Hind wing deep cupreous red, often with pale patch in cell, and two spots or a lunulate patch beyond it, and sometimes some yellow spots on termen; cilia black at base, whitish at tips.

Hab. ORANGE RIVER COLONY, Vaal R. (*Parijs*), 1 ♂; NATAL, Estcourt (*Hutchinson*), 1 ♂, 2 ♀; C. COLONY, Algoa Bay (*Burrows*), 2 ♂, 2 ♀, Eerst R. (*Trimen*), 6 ♂, 2 ♀. *Eap.* 44–52 millim.

Moldenkii was probably described from a dirty, greasy, or melanistic specimen.

Genus METAGARISTA.

Type.

Metagarista, Wlk. i. p. 60 (1854) *triphenoides*.

Proboscis fully developed; palpi obliquely upturned, the 2nd joint fringed with long hair in front, the 3rd short and hairy; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple and distinctly dilated at extremity; tibiæ fringed with hair; hind tarsi with the first two joints fringed with long hair; abdomen with dorsal crests on basal segments; the male with lateral protrusible tufts at base. Fore wing with vein 3 from close to angle of cell; 5 from well above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Abdomen orange with black bands..... *menas*.
- B. Abdomen black with white bands *triphenoides*.

112. *Metagarista mænas*.

Ægocera mænas, Herr.-Schäff. Aussereur. Schmett. ff. 20, 21 (1853); Kirby, Cat. Het. p. 41.

Head orange; palpi with a spot on side of 2nd joint and the 3rd joint black, a brown stripe on frons and vertex of head; thorax olive-grey, the tegulæ and patagia with rufous edges, and the femora with rufous stripe; pectus and legs orange, the fore femora above and tarsi black; abdomen orange, with black bands above. Fore wing olive-grey, the costal and inner areas to the postmedial line suffused with olive-brown and thickly irrorated with chocolate scales; a sinuous chocolate antemedial line oblique from costa to below the cell, where it is angled; the orbicular, reniform, and an elliptical spot below end of cell with chocolate outline and centre with leaden line on it; the veins beyond the cell with chocolate streaks, also the interspaces of terminal area; a double slightly-waved postmedial line strongly excurved from costa to below 3, then incurved, the outer line with some leaden-grey on it on inner area; a fine waved chocolate terminal line; cilia chocolate at tips. Hind wing deep orange, with reddish-brown maculate terminal band and waved terminal line. Underside of fore wing orange, with black spots in cell and on discocellulars and some dark suffusion beyond the postmedial line.

Hab. ASHANTI, 1 ♂; CAPE COAST (*Niblett*), 1 ♂; OLD CALABAR (*Sampson*), 1 ♀; CAMEROONS (*Rutherford*), 1 ♂, 1 ♀. *Exp.* 58–64 millim.

113. *Metagarista triphænoides*.

Metagarista triphænoides, Wlk. i. p. 61 (1854); Butl. Ill. Het. B. M. i. p. 12, pl. 5. f. 7; Karsch, Ent. Nachr. xxi. p. 352, pl. ii. f. 8; Kirby, Cat. Het. p. 41.

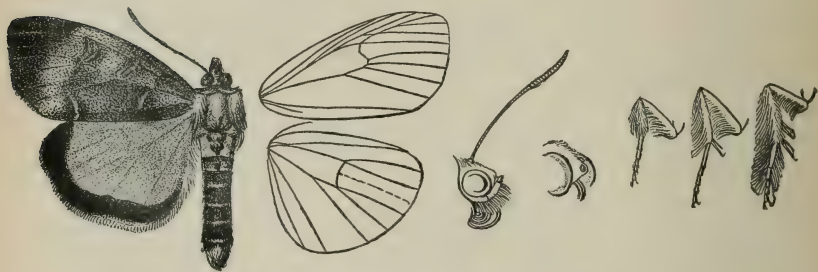


Fig. 257.—*Metagarista triphænoides*, ♂. 4.

Head rufous; thorax olive-grey, the tegulæ and patagia edged with rufous; pectus orange; fore legs rufous, the tarsi black; abdomen black with white bands, the base orange, the dorsal crests rufous, the ventral surface orange with black segmental lines. Fore wing whitish, more or less completely tinged with olive-brown,

and very thickly irrorated with chocolate; a sinuous antemedial silvery and chocolate line, oblique from costa to below cell where it is angled; the orbicular and reniform olive, with chocolate outline and silvery centres; the postmedial chocolate line strongly excurved from below costa to below vein 3, then incurved and with some silver on its outer edge, some chocolate suffusion beyond it on apical and inner areas; cilia chocolate. Hind wing deep orange, with black-brown terminal band with slightly sinuous inner edge and some white on termen towards tornus. Underside of fore wing with the basal half orange, with black discoidal spot; an irregular oblique maculate white band from vein 7 to tornus; the terminal half black, with some white irroration and chocolate suffusion on costal area.

Hab. GOLD COAST, 1 ♂ type, Aburi (*Carter*), 2 ♂, 1 ♀. *Exp.* 66 millim.

Genus **HECATESIA.**

Hecatesia, Boisd. Mon. Zyg. p. 11 (1829) Type. *fenestrata*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd somewhat porrect; frons with truncate conical prominence with raised rim at extremity and flattened plate below it; antennæ distinctly or strongly dilated towards extremity; tibiæ fringed with rough hair above; abdomen with dorsal crests and lateral tufts; male with protrusible lateral tufts of long hair from base. Fore wing in female with vein 3 from near angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell; male with a large glandular dilation on costa beyond middle, vein 12 being curved downwards round it, below vein 12 is an elongate semicircular patch of ribbed membrane, a clicking sound being produced probably by friction with the tarsal spines; the terminal part of subcostal nervure and the veins arising from it strongly curved downwards, the areole long and narrow, and vein 10 strongly anastomosing with 8, 9. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. Palpi with the 3rd joint long and naked.

114. *Hecatesia* thyridion.

Hecatesia thyridion, Feisth. Mag. Zool. (2) i. p. 2, pl. 21. f. 1 (1839); Voy. Favorite, v. Suppl. p. 19, pl. v. f. 1; White, Grey's Australia, ii. p. 476, pl. 8. f. 1; Kirby, Cat. Het. p. 12.

♂. Antennæ moderately dilated towards extremity; head and thorax dark chocolate-brown; palpi in front, sides of frons, stripes on back of head, tegulæ, and patagia pale yellow; antennæ annulated with white; pectus clothed with brown hair; legs black-brown, ringed with white and with tufts of orange hair on fore tibiæ; abdomen orange, the dorsal crests and lateral spots black; some white at base of dorsum, the ventral surface brown at base, banded black and white on terminal half, the anal tuft blackish at extremity. Fore wing dark chocolate-brown; an oblique subbasal yellowish-

white bar from below costa to below cell and a spot above vein 1; an oblique medial series of four spots and a series of three spots from below costa beyond middle to tornus, the ribbed hyaline membrane extending from the medial to the postmedial spots; five



Fig. 258.—*Hecatesia thyridion*, ♂. $\frac{1}{2}$.

white points on apical part of termen. Hind wing orange, with the costal area broadly black from near base and conjoined to the large isocidal spot; the terminal area black, expanding towards apex and below vein 2, with the cilia at tornus and a terminal striga below vein 2 orange, and minute white points in the interspaces.

♀. Head, thorax, and fore wing darker, the last with the post-medial spot below costa shorter.

Hab. W. AUSTRALIA, King George's Sound (*Capt. Grey*), 4 ♂, 1 ♀. *Exp.* 38 millim.

SECT. II. Palpi with the 3rd joint moderate, clothed with long hair.

- A. Antennæ strongly dilated towards extremity; fore wing without blue-grey spots; abdomen orange above..... *fenestrata*.
- B. Antennæ moderately dilated towards extremity; fore wing with blue-grey spots; abdomen black above *exultans*.

115. *Hecatesia fenestrata*.

Hecatesia fenestrata, Boisd. Mon. Zyg. p. 11, pl. 1. ff. 1, 2 (1829); id. Sp. Gén. Léop. i. pl. 14. f. 7; White, Grey's Australia, ii. p. 476, pl. 8. f. 2; Kirby, Cat. Het. p. 12.

♂. Antennæ strongly dilated towards extremity; head and thorax dark chocolate-brown; palpi in front, sides of frons, streaks



Fig. 259.—*Hecatesia fenestrata*, ♂. $\frac{1}{2}$.

on vertex of head and tegulæ, and patches on patagia yellowish white; pectus clothed with brown hair; legs blackish, banded with white; abdomen orange, with the dorsal crests and lateral spots

black, some white at base of dorsum, the ventral surface brown at base, white at extremity, the lateral tufts on terminal segments and the anal tuft black. Fore wing deep chocolate-brown; an oblique medial series of conjoined spots; a postmedial maculate band from extremity of the hyaline membrane to tornus interrupted at vein 2; a terminal series of white points. Hind wing orange; the costal area broadly deep brown from before middle, conjoined to the rather small discoidal spot; the terminal area deep brown, expanding below vein 2; the cilia chequered white and brown.

Hab. AUSTRALIA, 5 ♂. *Exp.* 30 millim.

116. *Hecatesia exultans*.

Hecatesia exultans, Wlk. xxxi. 58 (1864); Westw. Trans. Linn. Soc., Zool.

(2) i. p. 200, pl. 33. ff. 2, 3; Kirby, Cat. Het. p. 12.

♀. Head and thorax black, the latter with a blue gloss; palpi at base and extremity of 2nd joint, sides of frons, back of head, a rim behind eyes, tegulæ at middle and sides, and patagia at base and extremity with pale yellow spots; antennæ white at tips, towards which they are moderately dilated; tufts of orange hair from femora and tibiæ, the tarsi ringed with white; abdomen black, the dorsal crests and lateral and anal tufts orange, the last four segments with sublateral white spots. Fore wing with yellow spots at base, antemedial and medial spots in and below cell; spots beyond the cell between veins 3-5 and 5-10; subterminal spots in the interspaces on apical half and one above tornus; blue-white spots in and below cell before middle, on discocellulars, and postmedial points towards costa and beyond lower angle of cell; diffused patches of scales below end of cell and on inner area; cilia chequered black and white. Hind wing orange; a small discoidal black spot; a terminal black band expanding widely on apical area and on costa extending to before middle; cilia chequered black and white; the underside with postmedial spot below costa and a series just before termen.

Hab. W. AUSTRALIA (*Diggles*), 1 ♀ type. *Exp.* 30 millim.

Genus ÆGOCERA.

	Type.
<i>Ægocera</i> , Latr. Gen. Crust. & Ins. iv. p. 211 (1809)	<i>venulia</i> .
<i>Ægoceropsis</i> , Karsch, Ent. Nachr. xxi. p. 348 (1895)	<i>affinis</i> .
<i>Mitrophrys</i> , Karsch, Ent. Nachr. xxi. p. 349 (1895)	<i>menete</i> .

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, produced at extremity to an acute angle, the 3rd joint long, naked, and somewhat porrect; frons with truncate conical prominence with raised rim at extremity; antennæ almost simple, strongly dilated at extremity; tibiæ fringed with long hair above; abdomen with dorsal crests on basal segment, male with the terminal segments with lateral tufts of long hair and protrusible tufts from base. Fore wing with vein 3 from before angle of cell; 5 from just above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form a short areole, 7 from end of areole; 11 from cell; male typically with a more or less developed stridulating organ below costa beyond middle, the veins being curved downwards. Hind wing with vein 2 from towards end of cell; 3, 4 from angle, 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. Fore wing of male with a well-developed groove of ribbed hyaline membrane below costa beyond middle, a clicking sound being produced during flight probably by friction with the tarsal spines; the veins strongly downcurved.

117. *Ægocera tripartita*.

Ægocera tripartita, Kirby, Proc. R. Dublin Soc. (2) ii. p. 340 (1880); Waterh. Aid, i. pl. 39; Hmps. Moths Ind. ii. p. 158.

♂. Head and thorax white; the palpi except in front, extremity of frons, antennæ, and some scales on vertex of head black; tegulæ with black stripes; edges of patagia and subdorsal stripes on thorax black and orange; tibiæ orange, banded with black; tarsi black, ringed with white; abdomen orange, with dorsal series of black spots, the ventral surface whitish. Fore wing deep red, thickly irrorated with ochreous; a wedge-shaped yellowish-white fascia on median nervure from base to middle of cell; a somewhat elliptical



Fig. 260.—*Ægocera tripartita*, ♂. $\frac{1}{4}$.

spot in end of cell extending to just below it, and a triangular spot beyond the cell; these markings separated by clear red patches with bluish silvery bars on them, the medial bar joining a silvery spot on a triangular red patch below the cell; cilia whitish at tips. Hind wing orange, the costal area broadly red-brown conjoined to a discoidal lunule; the inner area brown; a broad terminal brown band narrowing somewhat at middle; cilia whitish.

♀. Hind wing with the markings black.

Hab. BURMA, Myingyan, Thayetmyo (Watson), 6 ♂, 2 ♀. *Exp.*, ♂ 36, ♀ 38 millim.

SECT. II. (*Ægocera*). Fore wing of male with slight traces of a groove below costa beyond middle, the veins slightly curved downwards.

- | | |
|--|---------------------|
| A. Fore wing with the wedge-shaped part of fascia beyond the cell extending almost to termen | <i>rectilinea</i> . |
| B. Fore wing with the wedge-shaped part of fascia beyond the cell ending well before termen | <i>venulia</i> . |
| C. Fore wing with oblique transverse lunulate band beyond the cell | <i>bimacula</i> . |

118. *Ægocera rectilinea*.

Ægocera rectilinea, Boisd. Spéc. Gén. Léop. i. pl. 14. f. 5 (1836); Guér. Icon. R. Anim., Ins. p. 498, pl. 84 bis f. 2; Kirby, Cat. Het. p. 37.

♂. Head and thorax white; palpi at side of 2nd joint and

extremity of 3rd and antennæ black; tegulæ with rufous and black stripes; edges of patagia and subdorsal stripes on thorax blue-black and orange; tibiæ and tarsi orange, banded with black and white; abdomen orange with dorsal series of black spots, the ventral surface whitish. Fore wing dark brown, very thickly irrorated with ochreous; a metallic bluish spot below costa near base; a creamy-white fascia edged with ferruginous red from base along median nervure and below vein 6 ending in a point just before termen, its upper edge indented by the silvery and blue orbicular and reniform spots and its lower edge by a spot before the triangular expansion at end of cell, which extends to submedian fold; an orange-red terminal line; cilia blackish at base, whitish at tips. Hind wing orange, with red discoidal spot and terminal band, the latter expanding widely on apical area and below vein 2; a terminal orange line; the cilia fuscous at base, whitish at tips. Underside of fore wing orange, the terminal area fuscous, indented by the wedge-shaped spot which is orange.

♀. Hind wing with the markings black.

Hab. ABYSSINIA, Atbara, 2 ♂; BR. E. AFRICA, Wadelai (*Emin*), 5 ♂, Port Ogowe (*Johnston*), 1 ♀; ASHANTI, 1 ♂; NIGER R., Onitsha, 1 ♂, 1 ♀, Sapele (*Sampson*), 1 ♂; LAGOS (*Strahan*), 1 ♂, 1 ♀; CONGO, 2 ♂, 2 ♀; ANGOLA, Kinsembo, 1 ♀. *Exp.* 38-44 millim.

119. *Ægocera venulia*.

Noctua venulia, Cram. Pap. Exot. ii. pl. 165, D (1777); Boisd. Mon. Zyg. p. 13, pl. 1. f. 3; Moore, Lep. Ceyl. ii. p. 32, pl. 94. f. 1; Hmps. Moths Ind. ii. p. 158; Kirby, Cat. Het. p. 36.

Head white; palpi with patch of brown and black at side of 2nd joint, the extremity of 3rd joint black; sides of frons and antennæ black; thorax white, with brown stripes on tegulæ, the edges of patagia and subdorsal stripes on thorax blackish and orange;

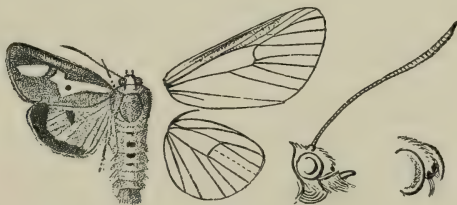


Fig. 261.—*Ægocera venulia*, ♂. 1.
(From Moths Ind. vol. ii.)

tibiæ and tarsi orange, banded with black and white; abdomen orange, with dorsal series of black spots, the ventral surface whitish. Fore wing dark brown thickly irrorated with ochreous; a creamy-white fascia from base through the cell to near termen below vein 6,

expanding triangularly to near vein 1 below middle of cell, with a black spot with silvery-blue centre on it, its upper edge indented by the ferruginous-red orbicular and reniform spots centred with silvery blue, sometimes bisected by the latter; a short red streak ending in silvery-blue scales above base of vein 1; the outer side of the triangular part of fascia and its wedge-shaped terminal part edged with black and red; a red terminal line; cilia black at base, whitish at tips. Hind wing orange; a deep red-brown discoidal spot; a terminal band, its inner edge acutely angled at vein 5, expanding on apical area; cilia whitish, with a fuscous line through them. Underside of fore wing orange, the terminal area brown, indented by the wedge-shaped fascia which is orange.

Hab. PUNJAB, Campbellpur (*Yerbury*), 1 ♂, 1 ♀, Jubbulpur (*F. Butler*), 2 ♀, Manpuri, 2 ♀; NEPAL, 1 ♂; BOMBAY, Kutch, 2 ♀, Poona, 1 ♂; NILGIRIS, 1 ♀; COIMBATORE (*Walhouse*), 1 ♂; CEYLON, 1 ♂. *Exp.*, ♂ 36, ♀ 40 millim.

120. *Ægocera bimacula*.

Ægocera bimacula, Wlk. i. p. 57 (1854); Butl. Ill. Het. B. M. i. p. 11, pl. 5. f. 4; Moore, Lep. Ceyl. ii. p. 33, pl. 94. f. 2; Hmps. Moths Ind. ii. p. 158; Kirby, Cat. Het. p. 37.

♂. Head and thorax white; palpi at side of 2nd joint and extremity of 3rd, sides of frons and a stripe in front of it, and antennæ black; the frontal process very long; tegulæ with black stripes; edges of patagia and subdorsal bands on thorax black, a little orange behind the tegulæ; pectus and legs orange, the fore and mid tibiæ and tarsi with black spots in front; abdomen orange, with dorsal series of black spots and sublateral series of points, the protrusible tufts deep chocolate-brown. Fore wing deep red-brown irrorated with ochreous, the markings placed on a deep chocolate-red patch extending to beyond middle of vein 1 and to beyond the cell; a yellowish spot at base of costa, usually conjoined to an ante-medial spot in and below cell, and forming with it a wedge-shaped patch which is often connected by a streak with the oblique bar across end of cell ending at submedian fold, an oblique lunulate band beyond the cell between veins 8 and 3, all these markings having blackish edges; silvery-blue spots in and below middle of cell, a discoidal lunule and some of the same colour at extremity of the red patch; a deep red terminal line; the cilia fuscous. Hind wing orange; deep red spots at angles of cell; a terminal band with its inner edges strongly excised at middle, expanding towards apex and tornus and leaving a spot on termen below vein 2; the inner area being sometimes streaked with red, and the spot at lower angle of cell connected with the terminal band; cilia orange. Underside of fore wing with the base, costa to beyond middle, and markings orange.

♀. Hind wing with the markings black-brown.

Hab. N.W. HIMALAYAS, Almorah (*Boys*), 1 ♀; SIKHIM (*Lidderdale*), 2 ♂; N. INDIA, (*Hearsey*), 2 ♀ type; NILGIRIS (*Hampson*),

1 ♂, 1 ♀; COIMBATORE (*Walhouse*), 1 ♂, 1 ♀; CEYLON (*Layard*), 1 ♀; UP. BURMA, Kalewa (*Watson*), 2 ♀. *Exp.*, ♂ 48, ♀ 50 millim.

SECT. II. Hind wing of male without groove below costa.

A. (*Ægoceropsis*). Frons greatly narrowed above; hind wing with fringe of long hair on inner area.

121. *Ægocera affinis*.

Ægocera affinis, Druce, Ent. Mo. Mag. xx. p. 155 (1883); Kirby, Cat. Het. p. 37.

Ægoceropsis norma, Karsch, Ent. Nachr. 1895, p. 352, pl. ii. f. 6.

♂. Palpi yellow, the sides of 2nd joint and extremity of 3rd black; head cream-coloured, the sides of frons and antennæ black; thorax rufous, with lateral and dorsal white stripes; pectus and legs orange-yellow, fore and mid tibiæ and tarsi with black rings; abdomen orange-yellow. Fore wing ferruginous red, with whitish fascia on costa to the postmedial band, with streak of black scales on it and leaden subbasal point; a whitish fascia from base of costa

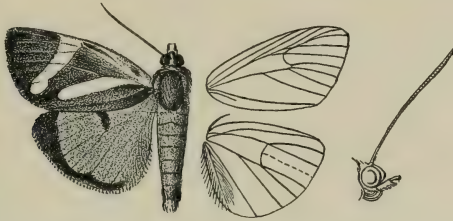


Fig. 262.—*Ægocera affinis*, ♂. †.

to well beyond middle in submedian interspace; an oblique band from costa beyond middle to above vein 2 near termen; a purplish-leadene spot in middle of cell and discoidal bar; cilia whitish. Hind wing orange-yellow, with slight discoidal lunule; a terminal red band with sinuous inner edge, moderately wide at apex, narrowing to tornus.

Hab. E. AFRICA, type † in Coll. Druce; BR. C. AFRICA, Zomba (*Johnston*), 1 ♂. *Exp.* 48 millim.

B. (*Mitrophrys*). Frons hardly or slightly narrowed above; hind wing without fringe of hair on inner area.

- | | |
|---|---------------------|
| a. Fore wing with white fascia on median nervure, hamate at extremity | <i>brevivitta</i> . |
| b. Fore wing with pale fascia in submedian interspace. | |
| a ¹ . Fore wing without black antemedial and postmedial lines. | |
| a ² . Fore wing with whitish subterminal line..... | <i>ansorgei</i> . |
| b ² . Fore wing without subterminal line. | |
| a ³ . Fore wing with the fascia in submedian interspace entire | <i>fervida</i> . |

- b*³. Fore wing with the fascia in submedian interspace interrupted.
*a*⁴. Fore wing with the submedian fascia once interrupted near extremity *obliqua*.
*b*⁴. Fore wing with the submedian fascia twice interrupted near extremity.
*a*⁵. Frons and vertex of head with black stripe.
*a*⁶. Fore wing with the postmedial band oblique *menete*.
*b*⁶. Fore wing with the postmedial band nearly erect *latreilli*.
*b*⁵. Frons and vertex of head without black stripe.
*a*⁶. Fore wing with the postmedial band oblique *obliquisigna*.
*b*⁶. Fore wing with the postmedial band nearly erect *abyssinica*.
*b*¹. Fore wing with black ante- and postmedial lines ... *rubida*.
c. Fore wing without pale fascia in submedian interspace.
*a*¹. Hind wing with broad black terminal band *obrysos*.
*b*¹. Hind wing with narrow black terminal band *corydoni*.

122. *Ægocera brevivitta*, n. sp. (Plate LII. fig. 10.)

♀. Head and thorax white; the 2nd joint of palpi rufous at sides, the tuft at its extremity and the extremity of 3rd joint and antennæ black; frons sometimes with blackish stripe; tegulæ with rufous and black stripes; edges of patagia and subdorsal stripes on thorax black and orange; tibiæ and tarsi orange, banded with black and white; abdomen orange, with dorsal series of black spots and sublateral points, the ventral surface white. Fore wing dark brown, very thickly irrorated with ochreous; a white fascia from base along median nervure, expanding into a hammer-head at end of cell, edged except above with ferruginous red, its upper and lower edges slightly indented before extremity by red and silvery-blue spots and divided by the red and silvery-blue reniform stigma from a red-edged wedge-shaped white spot beyond the cell below vein 6, ending some distance from termen; a red terminal line; the cilia blackish at base, whitish at tip. Hind wing orange with small blackish discoidal lunule; a terminal blackish band diffused on inner area towards base, its inner edge angled at vein 5 and extending as a broad costal fascia to before middle; a terminal orange line; cilia blackish at base, whitish at tips. Underside of fore wing orange, the terminal area fuscous, indented by the wedge-shaped spot which is orange; a orange terminal line.

♂. Hind wing deep red, the base and cilia yellowish.

Hab. BR. E. AFRICA, Athi-ya-Mawe (*Betton*), 4 ♀ type; ANGOLA, Ambriz (*Mrs. Monteiro*), 1 ♀. *Exp.* 34–38 millim.

123. *Ægocera ansorgei*.

Ægocera ansorgei, Roths. Nov. Zool. iv. p. 311, pl. vii. f. 9 (1897).

♂. Head and thorax bright rufous; palpi fringed with yellow, base of 3rd joint whitish; sides of frons and vertex of head with

whitish stripes; tegulæ at sides and middle, patagia, and thorax with whitish stripes, the patagia fringed with orange above; pectus and legs orange, the tibiæ and tarsi banded black and whitish; abdomen orange, with slight segmental black lines, the ventral surface whitish with sublateral black spots. Fore wing bright rufous; the costal and inner areas thickly irrorated with creamy white; a spot below base of costa followed by two, sometimes conjoined, streaks in submedian interspace to well beyond middle, with a short curved line beyond its extremity and some irroration above it; a small antemedial spot in cell; a somewhat quadrate spot in end of cell; an oblique sinuous postmedial band from below costa to below vein 3, with its lower end incurved and with a curved line beyond it; a subterminal line incurved below vein 3; a leaden-silvery streak above base of vein 1; a bar across middle of cell to the submedian fascia; a discoidal bar with cream-coloured striga before it, and a terminal series of small spots; cilia yellow. Hind wing orange, with discoidal rufous bar diffused outwards at lower extremity; a terminal band with sinuous inner edges, excised at middle and angled inwards on vein 2.

♀. Head, thorax, and fore wing much darker; hind wing with the markings black.

Hab. BR. E. AFRICA, Machakos (*Crawshay*), 1 ♀, Athi-ya-Mawe (*Betton*), 2 ♀, Uganda, Mnani (*Ansorge*), 1 ♂ type in Coll. Rothschild. *Exp.* 42-48 millim.

124. *Ægocera fervida*.

Ægocera fervida, Wlk. i. 57 (1854); Butl. Ill. Het. B. M. i. p. 12, pl. 5. f. 7; Kirby, Cat. Het. p. 37.

Ægocera triphænoides, Wlgrn. Wien. ent. Mon. iv. p. 38 (1860).

Ægocera fimbria, Möschl. Stett. ent. Zeit. xxxiii. p. 354 (1872); Kirby, Cat. Het. p. 37.

♂. Head and thorax black-brown; palpi fringed with orange; extremity of 2nd joint and base of 3rd white; frons, vertex of head, tegulæ, and thorax with broad whitish stripe; pectus and legs orange, fore tibiæ and tarsi with black rings; abdomen orange, with dorsal series of black spots. Fore wing deep chocolate-red, sparsely irrorated with ochreous, especially on costal area; a cream-coloured fascia from base of costa to well beyond middle in submedian interspace; an oblique fascia from costa beyond middle to above vein 2 near termen; a leaden spot below costa near base; an antemedial bar below the fascia and one beyond the fascia; a bar in middle of cell and another on discocellulars; cilia cream-coloured. Hind wing orange, with red discoidal spot and terminal band excised at middle and angled inwards at vein 2; cilia orange.

♀. Fore wing and markings of hind wing blacker.

Hab. N. CONGO (*Bentley*), Coll. Rothschild; NATAL (*Gueinzus*), 1 ♂, 1 ♀, Verulam (*Trimen*), 1 ♂, Karkloof (*Marshall*), 1 ♂, Malvern (*Marshall*), 1 ♂, Estcourt (*Hutchinson*), 1 ♀; C. COLONY, Fort Pitt (*A. Smith*), 1 ♂. *Exp.*, ♂ 52, ♀ 58 millim.

125. *Ægocera obliqua*.

Ægocera obliqua, Mab. Ann. Soc. Ent. Belge, xxxvii. p. 56 (1893); id. Nov. Lep. pl. xxii. f. 1.

♂. Head and thorax deep chocolate-red; palpi with the fringe mixed with orange, the 3rd joint white, black at tip; a medial white stripe on head and thorax; antennæ with the shaft white above except towards base; pectus and legs orange, the fore and mid tibiæ and the tarsi banded with black and white; abdomen orange, with dorsal series of black spots. Fore wing deep chocolate-red; a yellowish-white stripe from base of costa to near termen in submedian interspace, interrupted at middle and with a small rounded spot separated off at extremity; an oblique band from below costa beyond middle to near termen above vein 3; a few bluish-silvery scales below costa before middle and others near termen; cilia orange. Hind wing orange, with deep red discoidal spot; a broad terminal red band, expanding widely on apical area and again in submedian interspace; cilia orange, brownish towards apex. Underside of fore wing with the costa and inner area orange, the oblique band orange.

Hab. W. AFRICA, Niger R., Loko, 1 ♂, S. Nigeria, Abutshi (Newman), 1 ♂, 1 ♀. *Exp.* 44 millim.

126. *Ægocera menete*.

Noctua menete, Cram. Pap. Exot. i. pl. 70, D (1775); Kirby, Cat. Het. p. 37. *Noctua formosa*, Fabr. Mant. ii. p. 150 (1787).

Ægocère boisduval, Cuvier, Règne Anim. ed. 2, iii. pl. 20. f. 3 (1830); Kirby, Cat. Het. p. 37.

Ægocera magna, Wlk. i. 56 (1854); Butl. Ill. Het. B. M. i. p. 11, pl. 5. f. 8.

♂. Head and thorax bright rufous; 2nd joint of palpi fringed with orange, its extremity, the base of 3rd joint, and lateral stripes on frons and vertex of head cream-coloured; tegulæ at sides and middle, upper edges of patagia, and a stripe on vertex of thorax cream-colour; pectus and legs orange, the fore and mid tibiæ and



Fig. 263. — *Ægocera menete*, ♂. 1.

tarsi with black spots; abdomen orange, with dorsal series of black spots. Fore wing bright rufous irrorated with yellow; a pale yellowish spot below base of costa, followed by two elongate spots, then two rounded ones in submedian interspace; a spot in end of cell; an oblique band formed of two conjoined spots from below

costa beyond middle to just below vein 3; some leaden scales below costa near base, antemedial spots in cell and above vein 1 and a discoidal bar; cilia yellow. Hind wing orange; some rufous suffusion on inner area near base; a broad discoidal bar; a broad terminal band with sinuous inner edge, incurved at vein 2.

♀. The rufous replaced by black-brown; the markings of head, thorax, and fore wing whiter; hind wing with the discoidal bar often reduced to a spot.

Hab. SIERRA LEONE (*Morgan*), 2 ♂, 4 ♀, type *magna*; NIGER R., Onitsha, 1 ♂; UGANDA PROT., Wadelai (*Emin*), 2 ♀. *Exp.* 46–58 millim.

127. *Ægocera latreilli*.

Ægocera latreilli, Herr.-Schäff. Aussereur. Schmett. f. 19 (1853); Kirby, Cat. Het. p. 37.

♂. Bright rufous; palpi fringed with orange; the extremity of 2nd joint, base of 3rd, and lateral stripes on sides of frons and vertex of head cream-colour; tegulæ at sides and middle, streaks on patagia, and a stripe on vertex of thorax cream-colour; pectus and legs orange, the tibiæ and tarsi with black bands; abdomen orange, with dorsal black spots at base and bands towards extremity. Fore wing with yellow spot below base of costa, followed by an elongate spot, then a quadrate, then a rounded, and finally a triangular spot in submedian interspace; a round spot in end of cell; a slightly oblique band beyond the cell from below costa to vein 3, constricted at middle and rounded below; a purplish-silvery point below base of costa, and antemedial points in cell and above vein 1; a discoidal bar; a postmedial line oblique from below costa to vein 4, then strongly incurved; a terminal maculate band; cilia yellow. Hind wing orange, with red discoidal spot and broad terminal band, strongly incurved at vein 2; cilia orange.

♀. Black-brown instead of rufous; the markings of head, thorax, and abdomen whiter.

Hab. SENEGAMBIA, Casamanca; BR. C. AFRICA, Zomba (*Johnston*), 2 ♂, 2 ♀, (*Crawshay*) 1 ♂, 1 ♀; MATABELELAND, Umfuli R. (*Marshall*), 1 ♂. *Exp.* 50 millim.

128. *Ægocera obliquisigna*, n. sp. (Plate LIV. fig. 13.)

♂. Bright rufous; palpi fringed with yellow, the extremity of 2nd joint, the base of 3rd, and a broad stripe on frons and vertex of head cream-colour; tegulæ and vertex of thorax with cream-coloured stripe; pectus and legs orange, the fore and mid tibiæ and tarsi with dark bands; abdomen orange, with slight dorsal and lateral segmental black lines. Fore wing with oblique white fascia from base of costa to beyond middle in submedian interspace, followed by a round spot, then a wedge-shaped spot; a round spot in end of cell; an oblique irregular postmedial band from below costa to below vein 3, with its lower extremity incurved; a leaden point below costa near base, another in middle of cell, a discoidal

bar, and traces of a line beyond the postmedial band; cilia yellow. Hind wing orange; the inner area suffused with red; a discoidal red bar conjoined to the inner area and at vein 2 to the broad terminal band, which is excised at middle; cilia orange.

Hab. BR. E. AFRICA (*Scott-Elliot*), 1 ♂ type. *Exp.* 38 millim.

129. *Ægocera abyssinica*, n. sp. (Plate LIV. fig. 14.)

♂. Bright rufous; palpi fringed with orange, the extremity of 2nd joint, the base of 3rd, and a broad stripe on frons and vertex of head cream-colour; tegulæ and thorax with dorsal cream-coloured stripe; pectus and legs yellowish, the fore tibiæ and tarsi with dark rings; abdomen orange, with dorsal and lateral black bands. Fore wing with cream-coloured spot below base of costa, followed by two elongate spots, then a rounded spot, then a wedge-shaped spot in submedian interspace; a rounded spot in end of cell; a slightly oblique band beyond the cell from below costa to below vein 3 with its lower extremity incurved; a leaden point below costa near base, antemedial points in cell and above vein 1, a discoidal bar, and traces of a line beyond the postmedial band; cilia yellow. Hind wing yellow; the inner area rufous; a broad discoidal bar conjoined to the inner area and the broad terminal band at vein 2; cilia yellow.

♀. Black-brown.

Hab. ABYSSINIA, Atbara, 1 ♂, 1 ♀ type. *Exp.*, ♂ 38, ♀ 44 millim.

130. *Ægocera rubida*.

Ægocera rubida, Feld. Reis. Nov. pl. 107. f. 14 (1874); Kirby, Cat. Het. p. 37.

♂. Head cream-coloured, with a black stripe on frons and vertex; palpi with rufous patch on 2nd joint, which is fringed with orange, the extremity of 3rd joint black; thorax rufous and black, with cream-coloured stripes on tegulæ, patagia, and vertex; pectus and legs orange, fore and mid tibiæ and tarsi banded with black; abdomen orange, with dorsal series of black spots. Fore wing yellow, the inner area ferruginous red; a black streak on base of costa; a subbasal leaden and black spot below costa; an oblique antemedial black line from costa to median nervure, with another just beyond it from subcostal nervure to inner margin; a quadrate ferruginous spot in middle of cell, conjoined on median nervure to a patch in end of cell with purplish-silvery centres, having an elliptical black-edged yellow spot between them and a large reniform patch beyond the cell before the postmedial black line, which is slightly angled inwards below vein 6 and below vein 3 is strongly bent inwards; the terminal area strongly irrorated with red and with an ill-defined red line parallel to the postmedial line, and traces of a diffused subterminal line; cilia yellow. Hind wing orange; the basal inner area suffused with red; a broad red discoidal bar, and a broad terminal band angled inwards below vein 2; cilia orange.

Hab. ERITREA, Bogos; ABYSSINIA, Atbara, 1 ♂. *Exp.* 48 millim.

131. *Ægocera obrysos*. (Plate LIII. fig. 2.)

Eusemia obrysos, Mab. Bull. Soc. Zool. Fr. iii. p. 89 (1878); Kirby, Cat. Het. p. 37.

♀. Head black; palpi at base and extremity of 2nd joint orange; frons with lateral orange spots below the prominence, a band above it and another on vertex of head; tegulæ black, orange at sides and middle; thorax chocolate strongly irrorated with white; pectus and legs orange, the fore and mid tibiæ banded with black, the tarsi rufous irrorated with white; abdomen orange. Fore wing chocolate, strongly irrorated with white and black; a white band with sinuous edges across end of cell from subcostal nervure to submedian fold; a similar band beyond the cell between veins 8 and 3; cilia white towards apex and tornus. Hind wing orange, with terminal black band very wide at costa, narrowing to tornus, its inner edge angled inwards on vein 2; cilia white at apex and middle.

Hab. MADAGASCAR, Betsileo (*Cowan*), 1 ♀. *Exp.* 52 millim.

*132. *Ægocera coryndoni*. (Plate LIII. fig. 14.)

Ægocera coryndoni, Roths. Nov. Zool. iii. p. 96 (1896).

Ægoceropsis separata, Weymer, Berl. ent. Zeit. 1896, p. 87.

♀. Head and tegulæ yellow, the 1st and 2nd joints of palpi with black spots, the 3rd joint black with a few yellow scales; black spots on frons, between antennæ, and two on vertex of head; antennæ black, with white scales above; tegulæ with seven black spots; patagia with whitish and chocolate hair and black spot on shoulders; mesothorax grey, metathorax orange; pectus and legs orange, fore coxæ grey behind, the tarsi black and orange; abdomen orange, with the dorsal crests, anal tuft, and ventral bands on terminal segments black. Fore wing chocolate, the basal and terminal areas tinged with grey, the disk with ochreous; a medial white band from below costa to submedian fold expanding below, and a similar band beyond the cell between veins 8 and 3, each patch with an olive line round it with silvery scales at its edges; silvery spots in middle of cell above and below medial band and a discoidal bar; cilia grey. Hind wing orange, with terminal black band 5 millim. in width at vein 7, $1\frac{1}{2}$ at vein 2; cilia white mixed with black.

Hab. GERM. E. AFRICA, Tanga; ZAMBESI, Loangwa R. (*Coryndon*). *Exp.* 54 millim. This species is unknown to me, the types are lost; figured from a drawing sent me by Herr Weymer from his type *separata*.

Genus **ASTEROPETES**, nov.

Type, *A. noctuina*.

Proboscis fully developed; palpi upturned, fringed with long hair, the 3rd joint long, naked, dilated at extremity and porrect; frons with beak-like triangular prominence; head and thorax clothed with long hair; antennæ almost simple, hardly dilated beyond middle; tibiæ fringed with long hair; abdomen

with large dorsal crests on basal segments. Fore wing with vein 3 from close to angle of cell; 5 from well above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from end of areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

133. *Asteropetes noctuina*.

Seudyra noctuina, Butl. Ent. Mo. Mag. xiv. p. 206 (1878); id. Ill. Het. B. M. ii. p. 3, pl. 22. f. 1; Kirby, Cat. Het. p. 38.

Head and thorax clothed with blackish and grey hair; mid and hind tibiæ fringed with orange; abdomen orange, the dorsal crests blackish, mixed with rufous and grey at base, the extremity black, the ventral surface grey. Fore wing purple, some greyish hair at base of cell; a brownish fascia below the cell, with three oblique



Fig. 264.—*Asteropetes noctuina*, ♂. 1.

streaks from it to vein 1; the orbicular and reniform black, suffused with brown scales and edged with grey, the latter with tridentate ochreous-white patch beyond it and some grey-brown suffusion above it on costa; two black postmedial lines on a brown band slightly angled inwards at vein 2, the inner curved inwards to upper edge of reniform, the outer to costa; the terminal area purplish pink, with red line on its inner edge and two on termen with some black and white on their inner side from vein 3 to tornus; cilia brown. Hind wing orange, with large round black discoidal spot; a black terminal band diffused inwards to near base on inner area, and leaving an orange mark on termen above tornus; cilia yellowish white, with a brown line through them. Underside orange, fore wing with the orbicular, and both wings with the reniform stigma and an elongate mark below the cell black.

Hab. JAPAN, Yezo (*Pryer*), 2 ♂, 2 ♀, Hakodate (*Lewis*), 4 ♂, 4 ♀, types. *Exp.* 44 millim.

Genus *PARÆGOCERA*, nov.

Type, *P. confluens*.

Proboscis fully developed; palpi porrect, the 2nd joint fringed with long hair below, the 3rd naked, moderate, porrect; frons with short rather beak-like prominence; antennæ almost simple, distinctly dilated before extremity; tibiæ fringed with long hair above; abdomen with dorsal crests on basal segments, the male with long lateral tufts from base. Fore wing with vein 3 from before angle of cell, 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

134. *Parægocera confluens*.*Ægocera confluens*, Weym. Stett. ent. Zeit. liii. p. 100 (1892).*Ægocera darocana*, Druce, A. M. N. H. (6) xv. p. 42 (1895).

Head and thorax deep chocolate-brown mixed with ochreous white; mid and hind tibiæ mostly orange; abdomen orange, the dorsal tufts at base chocolate-brown and white, the anal tuft and ventral surface towards extremity blackish. Fore wing deep chocolate-brown; conjoined irregular ochreous-white patches at base of costa, antemedial from middle of cell to vein 1, in and below middle of cell and from below end of cell to inner margin; a spot in upper end of cell; two conjoined quadrate spots beyond the cell on costa and between veins 3 and 5, and a terminal band narrowing

Fig. 265.—*Parægocera confluens*, ♂. †.

to apex and tornus and with irregular inner edge; a silvery-blue antemedial line from costa to the patch in cell, bent outwards from the cell to inner margin; a discoidal bar and a diffused subterminal line excurved from costa to vein 2, then incurved and expanding into a patch; a fine black terminal line; cilia pure white, chequered with black. Hind wing orange, with black terminal band narrowing from costa to a point at vein 1 and with a slightly sinuous inner edge. Underside of fore wing orange except the apical half.

Hab. ZANZIBAR, type † ♀ in Coll. Weymer; GERMAN E. AFRICA, Lindi, 1 ♂. *Exp.* 36 millim. Type † *darocana* in Coll. Druce.

Genus **MIMEUSEMIA**.

Mimeusemia, Butl. A. M. N. H. (4) xv. p. 397 (1875) Type. *persimilis*.

Proboscis fully developed; palpi obliquely upturned, the 2nd joint fringed with long hair in front, the 3rd long, naked, porrect; frons with truncate conical prominence with raised rim at extremity; antennæ almost simple, distinctly dilated towards extremity; tibiæ nearly smoothly scaled; abdomen with dorsal crests on basal segments; male with the claspers large, and with lateral tufts of long hair from base. Fore wing with vein 3 from close to angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from the areole, rarely from beyond it; 11 from cell. Hind wing with vein 2 from long before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Hind wing with the postmedial patch orange.
- a. Fore wing with the markings orange *puciolia*.
 - b. Fore wing with the markings creamy white.
 - a¹. Fore wing with oblique band beyond the cell.
 - a². Abdomen not banded with black *lombocensis*.
 - b². Abdomen banded with black *vittata*.
 - b¹. Fore wing with two spots beyond the cell.
 - a². Abdomen not banded with black *albigutta*.
 - b². Abdomen banded with black *persimilis*.
- B. Hind wing with creamy-white patch beyond the cell.
- a. Abdomen orange, with black dorsal patch at base.
 - a¹. Patagia with yellow patches.
 - a². Hind wing with the cilia white-tipped *albicilia*.
 - b². Hind wing with the cilia not white-tipped except at apex *ceylonica*.
 - b¹. Patagia without yellow patches..... *postica*.
 - b. Abdomen banded black and orange.
 - a¹. Hind wing with white basal patch.
 - a². Hind wing with the white patch extending nearly to tornus..... *peracana*.
 - b². Hind wing with the white patch extending to middle . *econia*.
 - b¹. Hind wing without white basal patch.
 - a². Abdomen with the two basal segments banded with orange..... *peshva*.
 - b². Abdomen with the two basal segments black.
 - a³. Abdomen with black bands on medial segments; hind wing with orange patch on base of inner area usually present *basalis*.
 - b³. Abdomen without black bands on medial segments; hind wing with creamy patch below the cell..... *davidsoni*.
 - c. Abdomen blackish, with the anal tuft orange.
 - a¹. Fore wing not suffused with ochreous *accurata*.
 - b¹. Fore wing suffused with ochreous..... *centralis*.
- C. Hind wing without orange or white postmedial patch *proerosia*.

135. *Mimeusemia puciolia*. (Plate LIV. fig. 3.)

Agarista puciolia, Druce, A. M. N. H. (6) xv. p. 42 (1895).

Mimeusemia fruhstorferi, Roths. Nov. Zool. iv. p. 183 (1897).

♂. Head and thorax black; antennæ with white points, and white towards extremity; palpi yellowish white at base, white in front; sides of frons yellowish white; basal joint of antennæ and gulæ white; tegulæ, patagia, and vertex of thorax streaked with yellowish white; pectus and stripes on legs orange; abdomen orange, with dorsal and lateral black bands extending on last two segments to ventral surface. Fore wing black-brown; a whitish spot at base; some silvery blue scales near base below costa and above vein 1, and in middle of cell; a discoidal bar with a short streak above it and some diffused scales below it, and a spot above vein 1 towards tornus; an oblique antemedial patch from subcostal nervure to submedian fold, sometimes connected on median nervure with the oblique medial band from subcostal nervure to submedian fold; a curved band beyond the cell from veins 7 to 2; cilia white at apex and orange near tornus. Hind wing with oblique orange patch from below costa near base to near vein 1 towards tornus, extending to base below costa and on median nervure; an oblique

patch beyond the cell from below costa to vein 3; the inner margin and the termen and cilia towards tornus orange.

Hab. CELEBES, Minahassa, type ♀ in Coll. Druce, Samanga (*Fruhstorfer*), 1 ♂. *Exp.* 48–52 millim.

136. *Mimeusemia lombocensis*.

Mimeusemia lombocensis, Roths. Nov. Zool. iv. p. 310, pl. vii. f. 7 (1897).

♂. Head and thorax black; palpi with pale yellow lateral stripes; frons yellow at sides; tegulae and patagia edged with yellow; pectus and legs orange, the tarsi banded with orange; abdomen orange, with blackish patch at base of dorsum including the dorsal crests. Fore wing deep chocolate-brown, irrorated with yellow scales; a pale yellow wedge-shaped spot in base of cell; a band across end of cell; an oblique band beyond the cell between veins 7 and 2, dilated at lower end; two silvery blue spots below base of costa and one in middle of cell; a discoidal bar and two medial bars from below costa to above inner margin; cilia white at apex. Hind wing black, with orange patch from near base to beyond middle and from subcostal nervure to inner margin, its outer edges excurved beyond lower angle of cell; cilia white at apex; underside with the orange patch extending to base and to just below costa near base.

Hab. E. JAVA; LOMBOK, Sapit, 2000 ft. (*Fruhstorfer*), 1 ♂. *Exp.* 50 millim.

137. *Mimeusemia vittata*. (Plate LIV. fig. 7.)

Eusemia vittata, Butl. A. M. N. H. (4) xv. p. 143 (1875); Kirby, Cat. Het. p. 27.

♀. Head and thorax black-brown with a slight purplish gloss; antennae ringed with white; fore tarsi banded with white; abdomen black-brown, with orange bands. Fore wing deep red-brown; a small yellow antemedial spot below the cell and another in cell on right side only; an oblique postmedial band from below costa to above tornus, silvery-blue subbasal points below costa and on vein 1, a streak below medial part of costa, antemedial points in and below cell and above vein 1; a discoidal bar and point below origin of vein 2; a postmedial series of small dentate spots from below costa to vein 3, and some marks on inner area towards tornus. Hind wing orange; the base brown; the costal area brown, expanding into a spot at upper angle of cell; a terminal brown band expanding widely towards costa and below vein 2.

Hab. JAVA (*Horsfield*), 1 ♀ type. *Exp.* 56 millim.

138. *Mimeusemia albigutta*.

Pristoceraea albigutta, Karsch, Ent. Nachr. xxi. p. 357, pl. 2. f. 2 (1895).

Protoceraea geraldii, Kirby, A. M. N. H. (6) xviii. p. 377, pl. xix. f. 3 (1896).

♂. Head and thorax black; palpi at base and extremity of 2nd joint pale yellow; sides of frons with yellow stripes; a dorsal

yellow stripe on tegulæ and thorax; pectus and legs orange, the tibiæ with black bands at extremity, the tarsi black above; abdomen orange, with slight dorsal black crests. Fore wing chocolate-red, blackish towards costa; a pale yellowish patch at base below costa; a triangular medial spot on subcostal nervure; a rounded patch with blackish edges below the cell; rounded spots beyond the cell between veins 8 and 5 and 4 and 2; an obliquely sinuous antemedial silvery-blue line; a spot in middle of cell and discoidal line; the postmedial line represented by short lines beyond the postmedial spots, then retracted to below end of cell; cilia dark brown. Hind wing orange, with broad black-brown terminal band extending on costal area to before middle.

Hab. UGANDA, Narogaré (*Ansorge*), 1 ♂ type *geraldi*. *Exp.* 42 millim.

139. *Mimeusemia persimilis*.

Mimeusemia persimilis, Butl. A. M. N. H. (4) xv. p. 397 (1875); id. Ill. Het. B. M. ii. p. 3, pl. 22. f. 2; Kirby, Cat. Het. p. 30.

Black; extremities of 1st and 2nd joints of palpi with pale yellow spots in front; frons and vertex of head with yellow stripe; tegulæ with yellow spots, patagia with yellow stripes; fore coxæ orange in front, the femora fringed with orange and the hind tibiæ banded with orange; abdomen banded orange and black. Fore wing with quadrate pale yellow antemedial spot in cell; a short streak on subcostal nervure below middle of costa; an irregularly quadrate spot from middle of cell to submedian fold; a spot beyond the cell between veins 8 and 6 varying much in size and shape, and a somewhat triangular spot between veins 5 and 3; leaden silvery spots below base of costa, in and below middle of cell, and an oblique line across vein 1; a discoidal line and postmedial spots on veins 2 and 1; cilia white at apex. Hind wing orange, the costal area black, expanding into a patch at base and a quadrate discoidal patch; a terminal band with sinuous inner edge conjoined to a spot beyond lower angle of cell between veins 4 and 2.

Hab. JAPAN, Yezo (*Pryer*), 2 ♀, Hakodate (*Whitely*), 1 ♀ type, Tokio (*Fenton*), 1 ♀, Oiwake (*Pryer*), 2 ♂; COREA, Gensan (*Leech*), 1 ♂, 1 ♀; W. CHINA, Omei Shan, 1 ♀. *Exp.*, ♂ 54, ♀ 62 millim.

140. *Mimeusemia albicilia*. (Plate LIV. fig. 20.)

Mimeusemia albicilia, Hmps. Moths Ind. ii. p. 160 (1894).

Head and thorax black; palpi at base and extremity of 2nd joint, and a stripe on frons and vertex of head pale yellow; tegulæ at middle and patagia striped with yellow; metathorax with yellow spot; pectus and legs orange, the fore and mid tibiæ with black spots and the tarsi banded with black; abdomen orange, with the dorsal tufts black, male with a black bar on terminal segment. Fore wing deep chocolate-red, blackish in female; a pale yellow point at base; an antemedial spot from subcostal nervure to

below cell; a medial spot on subcostal nervure, and a somewhat triangular spot from discal fold in cell to submedian fold; a patch beyond the cell from vein 10 to just below 3, its outer edge waved and excurved below vein 5; cilia white at apex and tornus; sub-basal silvery-blue spots below costa and above vein 1; medial spots in and below cell and on vein 1; a discoidal bar; the postmedial line curved from costa to vein 3, then strongly retracted; some spots towards tornus. Hind wing black-brown; an orange patch on inner area extending from base to beyond middle and at base to costa; a pale yellow rounded spot beyond the cell between veins 7 and 3, with sinuous outer edge; cilia tipped with white.

Hab. BURMA, Tilin Yaw (*Watson*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 50, ♀ 56 millim.

141. *Mimeusemia ceylonica*.

Mimeusemia ceylonica, Hmps. Ill. Het. B. M. ix. p. 89, pl. 157. f. 24 (1893); id. *Moths Ind.* ii. p. 160.

♀. Head and thorax black-brown; palpi at base and extremity of 2nd joint, frons and vertex of head pale yellow; patagia with yellow patches; pectus and legs orange, fore and mid tibiae with black spots, the tarsi banded with black; abdomen orange, with basal triangular black patch including the dorsal crests; sublateral series of four spots. Fore wing deep chocolate; a triangular yellowish-white antemedial spot in and below cell: a medial point



Fig. 266.—*Mimeusemia ceylonica* ♀. I.
(From *Moths Ind.* vol. ii.)

on subcostal nervure, and an oblique patch from discal fold in cell to submedian fold; an oblique somewhat lunulate patch beyond the cell between veins 8 and 3; diffused silvery-blue streaks of scales below basal half of costa and above vein 1; a spot in middle of cell and discoidal bar; a postmedial line, interrupted in places, curved from costa to vein 3, then strongly retracted; termen irrorated with silvery blue; cilia more or less white at apex and tornus. Hind wing with an orange patch on inner area, extending to beyond middle and at base to the costa; a somewhat quadrate yellowish-white spot beyond the cell, between veins 7 and 3; cilia more or less white-tipped at apex.

Hab. CEYLON, Trincomali (*Yerbury*), 2 ♀ type. *Exp.* 44 millim.

142. *Mimeusemia postica*.

Ægocera postica, Wlk. Journ. Linn. Soc. vi. p. 86 (1862); Kirby, Cat. Het. p. 37.

Mimeusemia tara, Swinh. Cat. Het. Mus. Oxon. i. p. 167, pl. 6. f. 11 (1892).

Head and thorax chocolate-red: palpi whitish at tips; frons except at sides, vertex of head, and a stripe on tegulæ and patagia pale yellow; pectus and legs orange, the tarsi mostly black; abdomen orange, with triangular dorsal black patch at base; male with black patch on terminal segment, female with sublateral and anal spots. Fore wing chocolate-red; an antemedial pale yellow spot in the cell; a medial spot in and below the cell; a reniform patch beyond the cell, between veins 7 and 3; silvery-blue scales below basal part of costa and on vein 1; antemedial points in and below cell; a discoidal bar and spot below it on inner margin; the irregularly interrupted postmedial line angled inwards to below end of cell, then excurved again; some irroration on termen; cilia white at apex. Hind wing black; the basal area from costa before middle to tornus orange with curved outer edge; a somewhat conical pale yellow spot beyond the cell.

Hab. SINGAPORE (*Ridley*), 1 ♂; BORNEO, 1 ♀, Sarawak (*Wallace*), 1 ♂ type † *postica* and *tara* in Mus. Oxon. *Exp.*, ♂ 38, ♀ 42 millim.

143. *Mimeusemia peracana*.

Mimeusemia peracana, Roths. Nov. Zool. iii. p. 50, pl. xiv. f. 19 (1896).

♀. Head and thorax deep chocolate-red; palpi at base and extremity of 2nd joint white; a white stripe on frons and vertex of head; a dorsal white stripe on tegulæ and thorax; patagia with white stripes; pectus and legs orange, fore and mid tibiæ with black spots, the tarsi banded with black; abdomen orange, dorsally suffused with black towards base and with segmental blackish bands. Fore wing deep chocolate-red; an oblique antemedial white patch from above subcostal nervure to submedian fold; obliquely placed conjoined medial spots from above subcostal nervure to above vein 1, and a somewhat lunulate patch beyond the cell between veins 8 and 3; some silvery-blue scales near base; antemedial spots in and below cell and on vein 1; a discoidal bar; the postmedial line sinuous from costa to vein 3, then strongly retracted; the termen irrorated with silvery blue; cilia white at apex. Hind wing black-brown, with a yellowish-white patch on inner area from base to beyond middle extending to subcostal nervure near base; cilia white; underside with a white spot in fork of veins 7, 8.

Hab. PERAK; BORNEO, Sandakan (*Pryer*), 1 ♀. *Exp.* 50 millim.

144. *Mimeusemia econia*.

Mimeusemia econia, Hmps. Mon. Christmas I. p. 64, pl. ix. f. 7 (1900).

Head and thorax black; palpi at base and extremity of 2nd joint, sides of frons, and vertex of head yellowish white; tegulæ and thorax with dorsal and patagia with lateral yellowish stripes;

pectus and legs orange, fore and mid tibiæ with black spots, tarsi banded with black; abdomen with diffused dorsal black bands. Fore wing chocolate-red, the terminal area irrorated with yellowish scales; a yellowish-white point at base; an antemedial triangular spot from subcostal nervure to submedian fold, a medial spot on subcostal nervure, and a spot from above median nervure to submedian fold; an oblique spot beyond the cell from vein 8 to below 4; silvery-blue streaks below basal half of costa and on vein 1, spots in and below middle of cell, and a discoidal bar; the post-medial line curved from costa to vein 3 where it is strongly retracted; cilia yellowish at apex and tornus. Hind wing black-brown, with yellowish patch on basal half of inner area extending to subcostal nervure; an elliptical patch beyond the cell between veins 7 and 3; cilia whitish at apex and below vein 2; underside of costa orange at base.

Hab. CHRISTMAS I. (*Andrews*), 1 ♂, 1 ♀ type. *Exp.*, ♂ 40, ♀ 44 millim.

Subsp. 1. Hind wing with the yellowish patch reduced and not extending to inner margin.

Hab. QUEENSLAND, in Coll. Lower.

145. *Mimeusemia peshva*.

Eusemia peshwa, Moore, Lep. E. I. C. p. 289, pl. 7a. f. 2 (1878); Hmps. Moths Ind. ii. p. 159; Kirby, Cat. Het. p. 30.

Black-brown; palpi yellow at base and extremity of 2nd joint; frons and vertex of head with yellow stripe; tegulæ at middle and patagia with yellow stripes; pectus and legs orange; fore and mid tibiæ with brown spots, the tarsi banded with brown; abdomen with dorsal segmental black bands, the dorsal crests brown. Fore wing with yellow point at base; a small quadrate antemedial spot in cell; a medial point on subcostal nervure often present; an oblique patch from discal fold in cell to submedian fold; a somewhat lunulate patch beyond the cell between veins 8 and 3; streaks of diffused silvery-blue scales below basal half of costa and above vein 1; a spot in middle of cell, and a discoidal bar; a postmedial series of spots, in places conjoined into a line, curved from costa to vein 3, then strongly retracted at vein 2; some spots near tornus; cilia white at apex. Hind wing with orange patch on inner area, extending at base to middle of cell and on inner margin to beyond middle; a quadrate yellow patch beyond the cell between veins 7 and 3 or 4; cilia white at apex; underside with the orange in cell conjoined to a yellow spot at junction of veins 7, 8.

Hab. N.W. HIMALAYAS, Kulu, Sultanpur (*Graham-Young*), 1 ♂, Kangra (*Hocking*), 1 ♀; SIKHIM (*Buckley*), 1 ♀ type, (*Lidderdale*) 1 ♂, 4 ♀. *Exp.*, ♂ 52, ♀ 62 millim.

146. *Mimeusemia basalis*.

Eusemia basalis, Wlk. i. 53 (1854); Butl. Ill. Het. B. M. i. p. 9, pl. 5. f. 2; Hmps. Moths Ind. ii. p. 159; Kirby, Cat. Het. p. 30.

♂. Black-brown; abdomen with dorsal orange bands on 4th, 5th, 6th, and 7th segments, the whole ventral surface orange except extremity. Fore wing with usually triangular pale yellow antemedial spot in cell, extending above and below it but varying much in size; a band beyond the cell from below costa to submedian fold, angled inwards below vein 4 and with waved edges; a silvery blue spot below base of costa, a streak on base of vein 1, a bar in middle of cell, spots below middle, on origin of vein 2 and on vein 1, and a discoidal bar; a curved postmedial series of elongate spots on the veins, and a spot on termen above tornus. Hind wing with orange patch on basal half of inner area, varying much in size, sometimes conjoined to a large elliptical pale yellow spot beyond the cell between veins 6 and 2; underside with a pale spot at junction of veins 7, 8.

♀. Fore wing with a pale point on subcostal nervure towards end of cell.

Ab. 1. ♀. Hind wing with the orange patch absent except a streak on median nervure on underside.—Sikhim.

Hab. N.E. BENGAL, 1 ♂, 1 ♀ type; SIKHIM, 1800 ft. (*Dudgeon*), 1 ♀; CALCUTTA, 1 ♂. *Exp.*, ♂ 54, ♀ 62 millim.

Larva. Moore, Lep. E. I. C. p. 290, pl. xiii. f. 3.

Head orange, brownish at sides, with black points and sutures; thoracic somites pale greenish, the others yellow; warts, streaks in the folds, and hair brown. Food-plant, *Dillenia*.

***147. *Mimeusemia davidsoni*. (Plate LII. fig. 2.)**

Mimeusemia davidsoni, Swinh. A. M. N. H. (7) iii. p. 112 (1899).

♀. Black-brown; abdomen with dorsal orange bands on segments 4–7, the ventral surface orange except at extremity. Fore wing with somewhat triangular pale yellow antemedial spot from above to below cell; an oblique postmedial band from below costa to submedian fold, its inner side excised beyond lower angle of cell, its outer excurved and crenulate below vein 5; metallic blue spots below base of costa and on vein 1, a streak below middle of costa, and a curved series of spots in cell, on median nervure, below the cell, and above and on vein 1; a discoidal bar and postmedial spot on vein 1; a subterminal series of streaks on the veins ending in a transverse mark near tornus; termen irrorated with blue. Hind wing with pale yellow spot below end of cell, conjoined to a spot beyond the cell.

Hab. CANARA, Karwar (*Davidson*), 1 ♀ type † in Coll. Davidson. *Exp.* 54 millim.

148. *Mimeusemia accurata*. (Plate LIV. fig. 23.)

Eusemia accurata, Swinh. P. Z. S. 1889, p. 401 (1890); Hmps. Moths Ind. ii. p. 159; Kirby, Cat. Het. p. 30.

♀. Black-brown; palpi with the 1st joint in front and extremity of 2nd joint white; frons and vertex of head with yellowish-white

stripe; tegulæ with yellowish medial spot, patagia with yellowish stripe; pectus, coxæ, femora, and tibiæ orange; abdomen with the anal tuft and ventral bands orange. Fore wing with yellowish-white point at base of cell, an antemedial bar across cell, a medial band from below costa to above vein 1, constricted in cell and expanding greatly on outer side below the cell; a broad band beyond the cell between veins 8 and 3, its outer edge excised at middle; a silvery-blue spot below costa near base, antemedial spots in and below cell and above vein 1, a discoidal bar; a postmedial line strongly incurved below vein 4 and oblique from vein 2 to inner margin; cilia white at apex. Hind wing with rounded yellowish-white spot beyond the cell between veins 7 and 3; cilia white at tips; underside with white spot at junction of veins 7, 8.

Hab. BURMA, Moulmein (*Noble*), 1 ♀ type. *Exp.* 62 millim.

*149. *Mimeusemia centralis*. (Plate LI. fig. 11.)

Phalaenoides centralis, Roths. Zool. Nov. iii. p. 326 (1896).

♀. Head yellow, with some red-brown on 2nd and 3rd joints of palpi and behind antennæ; thorax red-brown, with yellow stripes on tegulæ, patagia, and vertex of thorax; pectus and legs orange, with brown bands on tibiæ and tarsi above; abdomen black-brown, with the last two segments and ventral surface orange. Fore wing chocolate-red suffused with ochreous except the basal inner area, cell, and veins; an oblique wedge-shaped yellowish antemedial band from subcostal nervure to vein 1; a medial band across the cell to just below it; an oblique postmedial band with rounded extremities from vein 7 to below 3; silvery scales below base of costa, on vein 1, in and below middle of cell, on and below discocellulars, and traces of a postmedial line incurved below vein 3. Hind wing chocolate, with rounded yellowish spot beyond the cell; some yellowish scales on medial part of terminal area; cilia yellowish; the underside with yellowish spot below base of costa.

Hab. QUEENSLAND, Rockhampton (*Barnard*), type † ♀ in Coll. Rothschild. *Exp.* 56 millim.

150. *Mimeusemia proerosia*. (Plate LIV. fig. 1.)

Agarista proerosia, Druce, A. M. N. H. (6) xv. p. 41 (1893).

♂. Head, thorax, and abdomen black-brown; palpi banded with white; frons white at sides; pectus in front and coxæ orange; anal tuft and claspers orange. Fore wing chocolate-brown; some silvery-blue scales below basal half of costa and others on the veins; a spot in middle of cell and discoidal bar; an oblique rather irregular pale yellow band beyond the cell from vein 7 to 1 near tornus, rounded below; the extremities of veins with short blue streaks. Hind wing blackish tinged with chocolate; the cilia yellowish white, expanding into a patch on terminal area before tornus.

Hab. KEY I., 2 ♂. *Exp.* 62 millim. Type † in Coll. Druce.

Subsp. 1. *obiensis*, Roths. Nov. Zool. v. p. 418 (1898).

Patagia with yellowish streaks; fore wing with antemedial and medial creamy bars across the cell, or medial bar only; the post-medial band broader; the silvery-blue scales forming a line; hind wing without creamy patch on termen.

Hab. BOURU (*Doherty*), 1 ♂; CERAM; OBI, type † ♀ in Coll. Rothschild.

Subsp. 2. *vitticollis*, Roths. Nov. Zool. iii. p. 94 (1896).

Tegulæ and thorax with dorsal and patagia with yellowish stripes.

Hab. FERGUSSON I. (*Meek*), type † ♂ in Coll. Rothschild.

Genus **SCHAUSIA.**

Schausia, Karsch, Ent. Nachr. xxi. p. 346 (1895) Type.

leona.

Proboscis fully developed; palpi upturned, fringed with long hair in front, the 3rd joint short and clothed with long hair; frons with truncate conical prominence with raised rim at extremity; antennæ almost simple, strongly dilated into a knob at extremity; tibiæ fringed with long hair on outer side; abdomen with dorsal tufts on basal segments. Fore wing with veins 3 and 5 from close to angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from just beyond the areole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3 from just before angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

A. Hind wing orange *gladiatoria.*
B. Hind wing whitish *leona.*

151. *Schausia gladiatoria.* (Plate LIV. fig. 8.)

Ægocera gladiatoria, Holl. Psyche, vi. p. 373 (1893).

♂. Head and thorax red-brown, the extremity of 2nd joint of palpi, the 3rd joint and a stripe on frons, vertex of head, tegulæ, and vertex of thorax cream-colour; pectus and legs orange, the fore femora fringed with whitish, the fore and mid tibiæ and the tarsi banded with rufous; abdomen orange, with dorsal rufous stripe. Fore wing chocolate-brown; a creamy-white fascia from base of costa to beyond middle in submedian interspace, where it ends in a point; a broad slightly oblique whitish postmedial band from below the costa to vein 2, with sinuous edges and pointed extremity; an oblique leaden-silvery bar in end of cell and discoidal bar; an oblique line from submedian fascia before middle to inner margin, along which it runs to near tornus, where it is joined by an oblique line from vein 2 near its origin; an oblique subterminal line from costa to vein 2, and a terminal line. Hind wing deep orange, with terminal red-brown band with sinuous inner edge, narrowing to tornus, dentate inwards on vein 1, and with orange spot on termen above vein 1.

Hab. W. AFRICA, Ogové R., 3 ♂, co-type. *Exp.* 40 millim.

152. *Schausia leona*.

Ægocera leona, Schaus, Lep. S. Leone, p. 20, pl. i. f. 1 (1893).

Deep chocolate-brown; palpi fringed with fulvous; coxæ with fulvous hair. Fore wing with very oblique diamond-shaped silvery-white patch from costa to middle of submedian fold; a large lunulate spot beyond the cell between veins 8 and 3; a purplish silvery-brown spot on middle of inner margin, an oblique line across end of cell to near tornus, where it is dilated into a large patch; a discoidal bar, a subterminal series of lunulate spots, and a terminal band.



Fig. 267.—*Schausia leona*, ♂. 1.

Hind wing yellowish white, with a broad black-brown terminal band with an irregularly sinuous inner edge, running to costa at middle where it is continued to the base as a wavy streak; the termen tinged with chocolate.

Hab. SIERRA LEONE (*Morgan*), 1 ♂, (*Clements*) 1 ♂; NIGER R., Sapele (*Sampson*), 1 ♀. *Exp.*, ♂ 48, ♀ 52 millim.

Genus **LOPHONOTIDIA**, nov.

Type, *L. nocturna*.

Proboscis fully developed; palpi upturned, reaching vertex of head, clothed with long hair, the 3rd joint minute, hairy; frons with large pointed triangular prominence; antennæ moderately dilated towards extremity; head and thorax clothed with long hair; tibiæ fringed with long hair, the spurs moderate; abdomen with large dorsal crests on 1st three segments. Fore wing with veins 3 and 5 from close to angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; the termen crenulate. Hind wing with vein 2 from before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle; the termen sinuous and slightly excised between veins 4 and 6; male with lateral tufts at base of abdomen.

153. *Lophonotidia nocturna*, n. sp.

♂. Head and thorax dark red-brown, mixed with white hair; antennæ irrorated with blue; pectus in front and below the wings, and fore coxæ orange; fore legs irrorated with white and with the fringe on tibiæ mixed with white; the tufts at base of abdomen rufous; abdomen black, the dorsal tufts red-brown, the anal tuft mixed with white. Fore wing deep chocolate red-brown; an ante-

medial bisinuate olive-green line with silvery-blue scales on its inner side; a silvery-blue spot with olive round it in middle of cell, a bar across end of cell, and a discoidal bar with olive before and beyond it; a waved olive line from vein 3 beyond angle of cell to



Fig. 268.—*Lophonotidia nocturna*, ♂ 1.

inner margin; an obsolescent white band irrorated with olive and red-brown from costa beyond middle to tornus; the terminal area irrorated with grey, and with some subterminal olive marks and a streak below vein 5. Hind wing black, with large white patch clothed with black hair and tinged with olive from subcostal nervure to middle of inner margin; cilia chequered white and black.

Hab. BR. C. AFRICA, Nyasa Land (*Simons*), 1 ♂ type. *Eap.* 52 millim.

Genus **COPIDRYAS.**

Copidryas, Grote, Can. Ent. viii. p. 99 (1876)..... Type.
gloveri.

Proboscis fully developed; palpi obliquely upturned, fringed with hair, the 3rd joint moderate, roughly scaled; frons with flattened, rather hollowed-out tridentate corneous process; antennæ almost simple, slightly dilated beyond middle; tibiæ fringed with long hair; abdomen with dorsal crests on basal segments. Fore wing with veins 3 and 5 from near angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

154. *Copidryas gloveri*.

Euschiropterus gloveri, Grote & Rob. Trans. Am. Ent. Soc. ii. p. 185 (1868); Riley, Insect Life, i. p. 104, f. 20; Kirby, Cat. Het. p. 39.

Head and thorax clothed with dark brown and grey hair, the extremity of 2nd joint of palpi and sides of frons white; tarsi ringed with white; abdomen orange, the dorsal crests and anal tuft above black. Fore wing dark chocolate-brown strongly irrorated with grey; a white fascia from base of costa in and below cell, its upper edge indented by the orbicular and reniform stigmata, which have dark edges and leaden centres, then bent up to costa before apex and with crenulate outer edge; an oblique silvery-

leaden antemedial striga from the fascia to vein 1, and an oblique interrupted postmedial line; a terminal series of black strigæ on a



Fig. 269.—*Copidryas gloveri*, ♂. 1.

whitish ground. Hind wing orange-yellow, with dark brown terminal band with curved inner edge and yellow terminal spot above tornus; some black strigæ on termen; cilia white except towards tornus. Underside of fore wing yellow, except costal and apical areas; a black spot in cell, and both wings with black discoidal spot.

Hab. U.S.A., Arizona, Grote Coll., 1 ♂, 1 ♀. *Exp.*, ♂ 40, ♀ 46 millim.

Genus **EUSCHIRROPTERUS.**

	Type.
<i>Euschirropterus</i> , Grote, Proc. Ent. Soc. Philad. vi. p. 176 (July 1866)	<i>poeyi</i> .
<i>Heterandra</i> , Herr.-Schäff. Corresp.-blatt. Zool. min. Ver. Regensb. xx. p. 134 (Sept. 1866)	<i>poeyi</i> .
<i>Laquea</i> , Jord. Nov. Zool. iii. p. 41 (1896)	<i>poeyi</i> .

Proboscis fully developed; palpi upturned, fringed with long hair; the 3rd joint moderate, hairy; frons with prominence; antennæ simple, strongly dilated towards extremity; tibiæ fringed with hair, the tarsi strongly spined and hairy; abdomen with dorsal crests on basal segments. Fore wing with vein 3 from well before angle of cell; 5 from well above angle; 9, 10 anastomosing with 8 to form the areole; 6 from the areole, 7 from end of it; 11 from cell; the costa strongly lobed and dilated in male before the apex. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. Frons with pointed conical prominence; fore wing with vein 10 becoming coincident with 11 in male, strongly anastomosing with it in female.

155. *Euschirropterus valkeri*, n. sp.

Head and thorax clothed with chocolate and grey hair, the head yellowish white above; abdomen orange, with the dorsal crests and extremity grey and brown. Fore wing chocolate, thickly irrorated with white; a white fascia from base in and below cell, leaving the elongate orbicular and the reniform stigma connected with the dark costal area, then running obliquely to costa, before apex, and with an

oblique dark line from its angle to inner margin ; a terminal series of chocolate striæ. Hind wing orange-yellow, with broad fuscous



Fig. 270.—*Euschirropterus valkeri*, ♂. 1.

terminal band with sinuous inner edge ; a yellow spot on termen above tornus.

Hab. CHILI, Valparaiso (*J. J. Walker*), 1 ♂, 1 ♀ type. *Exp.* 36 millim.

SECT. II. Frons with truncate conical prominence with raised rim at extremity, its lower edge produced to a slight point. Fore wing of male with vein 7 from the areole, 8 from end of areole ; 10 not anastomosing with 11.

- A. Fore wing with oblique discoidal spot ; hind wing with the terminal band rather narrow *poeyi*.
- B. Fore wing with the discoidal spot rounded ; hind wing with the terminal band broad *discifera*.

156. *Euschirropterus poeyi*.

Euschirropterus poeyi, Grote, Proc. Ent. Soc. Philad. vi. p. 178 (1866) ; Kirby, Cat. Het. p. 40.

Heterandra disparilis, Herr.-Schäff. Corresp.-blatt. Zool. min. Ver. Regensb. xx. p. 134 (1866).

Euthisanotia argentata, Druce, A. M. N. H. (6) xiii. p. 352 (1894) ; id. Biol. Centr.-Am., Het. ii. p. 329, pl. 70. f. 5.



Fig. 271.—*Euschirropterus poeyi*, ♂. 1.

♂. Head and thorax clothed with red-brown and grey hair ; abdomen orange-yellow, with the dorsal crests red-brown. Fore wing hyaline, the costal area clothed with chocolate and whitish scales ; a chocolate point in cell ; the reniform stigma oblique, olive,

edged with chocolate and with silvery lunule at middle; the inner area to the submedian fold and to near tornus strongly irrorated with olive above vein 1 and suffused with grey below it; oblique silvery strigæ on olive patches before and just beyond middle above vein 1, continued at an angle to inner margin as chocolate lines; a chocolate apical patch with waved inner edge and a terminal series of points. Hind wing hyaline; the costal area clothed with chocolate and grey scales to just into the cell, leaving a hyaline patch above vein 7 towards apex; inner area orange-yellow; a terminal chocolate dentate band, expanding into a patch with a yellow spot on it towards tornus.

♀. Head white, with some chocolate scales on palpi and vertex; antennæ ringed with brown; thorax clothed with chocolate and grey hair; pectus and legs white, the latter irrorated with rufous; abdomen orange, the ventral surface whitish. Fore wing dark chocolate-brown, the costal, inner, and terminal areas irrorated with white; a silvery-white fascia from base of costa in and below cell, leaving the minute chocolate orbicular and the oblique white-centred reniform connected with the dark costal area, then running obliquely



Fig. 272.—*Euschiropterus poeyi*, ♀. $\frac{1}{2}$.

to the costa before apex, the area below it strongly irrorated with olive; a terminal series of small lunules. Hind wing orange-yellow, with terminal chocolate band leaving some yellow on inner side of the terminal line from vein 4 to tornus; cilia white and rufous, yellow at tornus.

Hab. MEXICO, Jalapa, Orizaba, type in Coll. Druce; GUATEMALA (*Rodriguez*), 1 ♀, Godman-Salvin Coll.; JAMAICA; CUBA, 1 ♂; HAITI (*Tweedie*), 1 ♀. *Exp.*, ♂ 46, ♀ 52 millim.

157. *Euschiropterus discifera*, n. sp. (Plate LI. fig. 9.)

♀. Head pale yellow; palpi, sides of frons, and antennæ dark brown, the last with the upperside of shaft irrorated with white; thorax grey-white; the tegulæ and legs dark brown; abdomen dark brown, with broad orange subdorsal stripes connected by dorsal segmental lines, the stripes not reaching extremity. Fore wing grey-brown, with a large grey-white semicircular patch on costa from base to towards apex, extending to below middle of cell, the costal area irrorated with brown and leaving a large dark

brown discoidal lunule, the grey-brown area shading into dark brown towards the grey patch. Hind wing grey-brown, with a yellow patch on basal area extending from inner margin to subcostal nervure and to beyond the cell, its outer edge rounded; a yellow and dark brown subterminal lunule in submedian interspace. Underside of fore wing with diffused yellow fascia along median nervure.

Hab. BRAZIL, Sta. Catherina (*Schmidt*), 1 ♀ type. *Exp.* 52 millim.

Genus **TUERTA.**

	Type.
<i>Tuerta</i> , Wlk. Proc. N. H. Soc. Glasg. i. p. 346 (1869)	<i>chrysochlora</i> .
<i>Misa</i> , Karsch, Ent. Nachr. 1895, p. 349	<i>memnonia</i> .

Proboscis fully developed; palpi obliquely upturned, the 2nd joint fringed with hair in front, the 3rd roughly scaled; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple and slightly dilated towards extremity; tibiæ fringed with hair above; abdomen with dorsal crests except on terminal segments. Fore wing with veins 3 and 5 from near angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 7 from beyond the areole, 11 from end of cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. (*Tuerta*). Frontal prominence with its lower edge produced to a point.

- | | |
|--|-----------------------|
| A. Fore wing whitish irrorated with chocolate | <i>platensis</i> . |
| B. Fore wing olive-green, with the inner and terminal areas chocolate. | |
| a. Fore wing with the inner edge of terminal band angled at middle | <i>chrysochlora</i> . |
| b. Fore wing with the inner edge of the terminal band oblique | <i>liturata</i> . |

158. *Tuerta platensis*.

Euthisanotia platensis, Berg, An. Soc. Argent. xiii. p. 172 (1882); Kirby, Cat. Het. p. 39.

♂. Head and thorax clothed with chocolate and grey hair; tarsi blackish ringed with white; abdomen yellow mottled with rufous,



Fig. 273.—*Tuerta platensis*, ♂. 1.

the base and ventral surface whitish, the dorsal crests dark. Fore wing whitish, thickly irrorated with chocolate-brown; a white fascia

from base in and below cell indented by the orbicular and reniform stigmata, which are olive edged with black and with leaden centres, then bent up to costa before apex, the area below it chocolate-brown suffused with olive; a terminal series of black lunules. Hind wing yellow; a broad terminal reddish-brown band angled inwards below vein 2 and with yellow terminal spot on it above tornus; cilia white. Underside of fore wing with the disk yellow, with black spot in cell; both wings with discoidal spot. Frontal prominence reniform at extremity, its lower edge produced to a point.

Hab. ARGENTINA, Buenos Ayres (*Berg*), 1 ♂. *Exp.* 34 millim.

159. *Tuerta chrysochlora*. (Plate LIV. fig. 9.)

Tuerta chrysochlora, Wlk. Proc. N. H. Soc. Glasg. i. p. 347, pl. vi. f. 7 (1869); Kirby, Cat. Het. p. 38.

♂. Head and thorax very dark brown, mixed with a few white scales; pectus and legs orange, fore tibiae and the tarsi ochreous and brown; abdomen orange; the dorsal crests dark. Fore wing olive-green, the inner area and terminal third of wing dark chocolate-brown; two obliquely placed points in the cell, a discoidal lunule, some scales beyond the cell, and a short streak on base of vein 4 pure white; the dark inner area irrorated with white, its upper edge sinuous, angled at middle, then with a short white streak on it; the terminal dark area suffused with olive-brown on its inner half and irrorated with white on its outer. Hind wing orange, with broad dark brown terminal band emitting a tooth on vein 1 to near base. Underside of fore wing orange, with dark terminal band strongly dilated below costa, then curved; hind wing wholly orange. Frontal prominence very small at extremity, its lower edge produced to a point.

Hab. Congo, 1 ♂ type. *Exp.* 42 millim.

160. *Tuerta liturata*.

Eudryas liturata, Auriv. Ent. Tidskr. xiii. p. 187 (1892).

Metagarista aziyade, Mab. Bull. Soc. Ent. Fr. lxi. p. cxi (1892); id. Nov. Lep. pl. xvii. f. 5.

♂. Head and thorax chocolate-brown mixed with a few grey scales; pectus and legs orange, the fore tibiae and tarsi brown and grey; abdomen orange, with the dorsal crests dark, the anal tuft black. Fore wing olive-green, the inner and terminal areas chocolate-brown; some white points in the cell, some below the extremity of subcostal nervure, and others below basal half of median nervure, a discoidal lunule, a point at lower angle of cell, and a short streak below submedian fold just beyond middle; the dark inner area extending to above vein 1 with straight edge, the inner edge of terminal area straight and oblique; the inner margin and termen slightly irrorated with white. Hind wing orange, with broad terminal dark brown band emitting a tooth on vein 1 to near base.

Underside orange; both wings with the terminal area brown with sinuous inner edge. Frontal prominence small at extremity.

Hab. GOLD COAST, Aburi (*Sir G. Carter*), 1 ♂; CAMEROONS. *Exp.* 38 millim.

SECT. II. (*Misa*). Frontal prominence with its lower edge not produced at middle.

- A. Hind wing orange or white, with blackish terminal band.
 - a. Hind wing with the base orange.
 - a¹. Fore wing not irrorated with whitish *transiens*.
 - b¹. Fore wing strongly irrorated with whitish.
 - a². Fore wing with white submedian fascia *trimeni*.
 - b². Fore wing without submedian fascia *sabulosa*.
 - b. Hind wing with the base black *rufodiscalis*.
- B. Hind wing brown, with broad antemedial whitish band... *memnonia*.
- C. Hind wing blackish, with silky yellow medial and post-medial spots *semyron*.
- D. Hind wing black, in male with white patch in, below, and beyond cell..... *dispar*.

161. *Tuerta transiens*, n. sp. (Plate LIII. fig. 15.)

♀. Head and thorax red-brown; palpi fringed with orange; pectus and base of legs orange; abdomen orange, with dorsal red-brown stripe. Fore wing chocolate-brown; a silvery-white fascia from base of costa in and below cell to beyond middle in submedian interspace, where it ends in a point; a large lunule beyond the cell from vein 8 to just below 3; an oblique silvery-lead spot in middle of cell and a discoidal bar; a postmedial line incurved below vein 3 and at vein 2 retracted to below end of cell, then excurved again, and with a series of dentate spots beyond it; a terminal band. Hind wing orange-yellow; a dark brown terminal band, narrowing somewhat to tornus and with somewhat waved inner edge. Frontal prominence small at extremity.

Hab. OLD CALABAR (*Cockburn*), 1 ♀ type. *Exp.* 52 millim.

162. *Tuerta trimeni*.

Ægocera trimenii, Feld. Reis. Nov. pl. 107. f. 15 (1874); Kirby, Cat. Het. p. 37.

Ægocera tricolor, Druce, Ent. Mo. Mag. xx. p. 155 (1883); Waterh. Aid. ii. pl. 155. f. 2; Kirby, Cat. Het. p. 37.

Ægocera elegantula, Mab. Ann. Soc. Ent. Belge, xxxvii. p. 56 (1893); id. Nov. Lep. pl. xxii. f. 2.

Mitrophrys halans, Karsch, Ent. Nachr. xxi. p. 354, pl. ii. f. 7 (1895), and xxiv. p. 331.

Mitrophrys agoma, Karsch, Ent. Nachr. xxi. p. 355 (1895).

(*elegantula*.) Head black; palpi white at base and extremity of 2nd joint; sides of frons and vertex of head with white stripes; thorax black-brown; tegulæ white at sides and middle; patagia and thorax striped with white, the patagia fringed with orange above; pectus and legs orange; fore and mid tibiæ and the tarsi banded with black; abdomen white, with dorsal black stripe and lateral

bands. Fore wing deep chocolate-brown, thickly irrorated with pale olive-green; a wedge-shaped white fascia from base of costa to beyond middle in submedian interspace, where it ends in a point, its upper edge in the cell excised; an elliptical or somewhat triangular band beyond the cell from below costa to vein 3 on an olive-green patch, an oblique silvery striga before middle from the fascia to vein 1, with a red line on an olive band beyond it; the orbicular and reniform represented by silvery bars on olive patches; a postmedial silvery line excurved round the postmedial band, then retracted to below angle of cell and oblique to inner margin; a fine dark terminal line; cilia pale brown. Hind wing pure white, with black terminal band broad at costa, narrowing to tornus and with sinuous inner edge; cilia pale brown at base, white at tips.

Ab. 1. *trimeni*. Abdomen pale or deep orange at sides; hind wing more or less strongly tinged with pale or deep orange, leaving a white line before the terminal band.

Ab. 2. *tricolor*. Abdomen at sides and hind wing deep orange.

Hab. SIERRA LEONE (*Morgan*), 1 ♂, 2 ♀; NIGER R., Onitsha, 1 ♀; SENEGAL; BR. E. AFRICA, Wadelai (*Emin*), 1 ♂, 1 ♀, Stony R. (*Crawshay*), 1 ♀, Voi (*Betton*), 1 ♀, Sabaki Valley (*Gregory*), 1 ♀; NATAL, Durban, 2 ♂, 1 ♀; C. COLONY, Annshaw (*Miss F. Barrett*), 1 ♀, Grahamstown, 1 ♀. *Exp.* 44-54 millim.

163. *Tuerta sabulosa*.

Eusemia sabulosa, Boisd. Rev. Zool. (3) ii. p. 106 (1874); Feld. Reis. Nov. pl. 107. f. 11; Druce, Biol. Centr.-Am., Het. ii. p. 329; Kirby, Cat. Het. p. 41.

Fenaria seversa, Grote, Papilio, ii. p. 132 (1882); Kirby, Cat. Het. p. 39.

Agarista noctuiformis, Möschl. Abh. Senck. Ges. xvi. p. 112 (1890); Kirby, Cat. Het. p. 41.

Head white; palpi at sides of 2nd and 3rd joint and antennæ blackish; thorax clothed with white and dark chocolate-brown scales; fore tibiæ and the tarsi banded with black; abdomen orange, the dorsal crests dark, the ventral surface white. Fore wing white, strongly irrorated with chocolate and silver scales, sometimes leaving almost pure white patches at base and before the costal half of postmedial line; a dark antemedial line, very oblique from costa to submedian fold where it is obtusely angled; the orbicular and reniform blackish with silvery scales on them, the reniform produced to points above and below; the postmedial line slightly angled inwards at vein 5 and strongly incurved below vein 3; a dentate subterminal line angled inwards at vein 2 and with patches of silvery scales before it; cilia chequered white and blackish. Hind wing orange-yellow, with black terminal band wide at costa, narrowing to tornus; cilia white, blackish above tornus. Underside of fore wing yellow, the orbicular and reniform stigmata black with white patches between and beyond them, the reniform conjoined to the broad black terminal band at its lower extremity.

Hab. U.S.A., N. Mexico, California; MEXICO, Jalapa (*Trujillo*), 2 ♂, 4 ♀; GUATEMALA (*Rodriguez*), 1 ♀; PORTO RICO, type † *noctuiiformis* in Coll. Staudinger. *Exp.*, ♂ 38, ♀ 44 millim.

*164. *Tuerta rufodiscalis*.

Godasa rufodiscalis, Roths. Nov. Zool. iii. p. 47, pl. 14. f. 23 (1896).

♂. Head and thorax black-brown mixed with a few white scales; white points on 1st and 2nd joints of palpi, sides of frons, basal joint of antennæ, behind the eyes, and on tarsal joints; abdomen orange, black at base and extremity, and with dorsal and sublateral series of black spots. Fore wing deep chocolate-brown, with some silvery-blue scales on basal area, in and below middle of cell, on and below discocellulars, and forming traces of sinuous postmedial and subterminal lines; a terminal series of white points with larger spot above tornus. Hind wing orange-red, the basal and costal areas black-brown; a black discoidal bar conjoined to the costal area; a terminal band broad at costa, narrowing towards tornus.

Hab. MADAGASCAR, type † ♂ in Coll. Rothschild. *Exp.* 44 millim.

165. *Tuerta memnonia*.

Misa memnonia, Karsch, Ent. Nachr. 1895, p. 356, pl. ii. f. 9.

♀. Black-brown; head and tegulæ in front brown-red; 3rd joint of palpi, frontal prominence, and antennæ black; metathorax with red patch; fore coxæ red in front; abdomen with the dorsal tufts



Fig. 274.—*Tuerta memnonia*, ♀. †.

deep red, the last three segments red above except anal tuft. Fore wing with leaden-silvery spot below base of costa; a subbasal line from costa to vein 1; an antemedial line, very oblique from costa to median nervure where it is strongly angled, then incurved; a moderately broad oblique yellowish-white medial band ending on inner margin near tornus, with diffused leaden-silvery scales before and beyond it. Hind wing with broad antemedial yellowish-white

band, with diffused inner edge and curved outer edge; cilia white at tornus. Frontal prominence small at extremity.

♂. Thorax and fore wing deep chocolate.

Hab. GAMBIA, Bathurst; TOGOLAND; NIGER R., Onitsha, 1 ♀; CAMEROONS, 1 ♂. *Exp.* 60 millim.

166. *Tuerta semyron*.

Agarista semyron, Herr.-Schäff. Aussereur. Schmett. f. 24 (1850); Kirby, Cat. Het. p. 24.

Eusemia chrysospila, Wlk. xxxv. 1860 (1866).

Black-brown; palpi pale yellow at base and in front; sides of frons and a spot on back of head yellow; a rim behind eyes; tegulæ at middle and shoulders and patagia with yellow stripes; metathorax with yellow spot; pectus and legs orange; fore and mid tibiæ with black spots, the tarsi banded with black; abdomen orange, with segmental black bands. Fore wing with pale silky yellow point at base, antemedial and medial quadrate spots in cell; a quadrate spot below end of cell and spots beyond the cell between veins 8 and 5 and 5 and 3; cilia white at apex and tornus; some silvery-blue marks at base; antemedial points in and below cell and above vein 1; a discoidal bar and spots on inner margin beyond middle and near tornus. Hind wing with pale silky yellow spot in cell, conjoined to a quadrate spot below the cell; a rounded spot with waved outer edge beyond the cell between veins 7 and 3; cilia white at apex and below vein 1.

Hab. SUMATRA; PHILIPPINES, 1 ♂ type *chrysospila*, Manilla (*J. J. Walker*), 1 ♀. *Exp.*, ♂ 44, ♀ 52 millim.

*167. *Tuerta dispar*.

Ægocera dispar, Roths. Nov. Zool. iii. p. 43, pl. 15. ff. 27, 28 (1896).

♂. Black; head, tegulæ, and some hair on front of patagia orange; the 3rd joint of palpi and antennæ black; fore coxæ and stripes on femora and tibiæ orange. Fore wing with a point at base; an oblique yellowish-white wedge-shaped antemedial patch from subcostal nervure to above vein 1; an oblique band beyond the cell between veins 8 and 2 with sinuous edges, rounded at extremities and with its lower extremity incurved; a silvery-blue bar in end of cell, a discoidal bar, a line beyond the postmedial band, and a streak below vein 2. Hind wing with yellowish-white wedge-shaped patch in, below, and beyond the cell.

♀. Fore wing with hardly a trace of the antemedial patch; hind wing wholly black; abdomen with the extremity of anal tuft orange.

Hab. E. AFRICA, Wassein (*Mathews*), type† in Coll. Rothschild. *Exp.*, ♂ 46, ♀ 56 millim.

Genus **OMPHALOCEPS**, nov.Type, *O. triangularis*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with long hair in front, the 3rd roughly scaled and somewhat porrect; frons with slight rounded prominence; antennæ almost simple, distinctly dilated towards extremity; tibiæ fringed with hair on upper side; the hind tibiæ and 1st joint of tarsi in male with very long hair; abdomen with dorsal crests except on terminal segments, male with lateral protrusible tufts of long hair from base. Fore wing with veins 3 and 5 from close to angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Fore wing with three patches *daria*.
 B. Fore wing with oblique band from below costa beyond middle to above tornus *triangularis*.

168. *Omphaloceps daria*. (Plate LIV. fig. 18.)*Agarista daria*, Druce, A. M. N. H. (6) xv. p. 42 (1895).*Ægocera triplagiata*, Roths. Nov. Zool. iii. p. 95 (1896).*Ægocera triplagiata*, var. *dispar*, Kirby, A. M. N. H. (6) xviii. p. 377, pl. xix. f. 1 (1896).*Mitrophrys meraca*, Karsch, Ent. Nachr. xxiv. p. 332 (1898).

♀ (*triplagiata*). Head, thorax, and abdomen black-brown; palpi fringed with orange; sides of frons white; tegulæ with white points; thorax with dorsal white stripe; fore tibiæ banded with orange. Fore wing black-brown: a silvery-white point below base of costa and antemedial striga above vein 1; an oblique triangular antemedial yellow patch from subcostal nervure to above vein 1; a band across end of cell; a white point in submedian fold just beyond middle; an oblique postmedial yellow band with wavy edges from below costa to below vein 2. Hind wing orange-yellow, with the terminal half black, narrowing somewhat to inner margin; cilia white at tips.

Ab. 1. *daria*. Fore wing with the markings white instead of yellow; hind wing white; a leaden-silvery bar across middle of cell; a discoidal bar continued obliquely to inner margin, where there is a spot before it and a bar beyond the postmedial band from below costa to vein 5.

Hab. E. AFRICA (*Ansorge*), 2 ♀, Lindi, type ♀ in Coll. Druce; ZAMBESIA, Loangwa R., M'pta (*Coryndon*), type ♂ *triplagiata* in Coll. Rothschild; GERM. S.W. AFRICA. *Exp.* 54–68 millim.

169. *Omphaloceps triangularis*.*Eusemia triangularis*, Mab. Ann. Soc. Ent. Belg., xxxvii. p. 57 (1893); id. Nov. Lep. pl. xxii. f. 3.*Phasis astrapeus*, Holl. Psyche, vi. p. 373 (1893).

Dark chocolate-brown; palpi at base, extremity of 2nd joint of palpi, sides of frons, and basal joint of antennæ whitish; pectus orange; legs brown and orange. Fore wing with rather narrow

oblique yellow band from below costa just beyond middle to above tornus, with rather sinuous edges. Hind wing with oblique golden-



Fig. 275.—*Omphaloceps triangularis*, ♂. 1.

yellow triangular patch from basal half of costa to near termen at vein 2, its costal area whitish.

Hab. CAMEROONS, Ogové R., 2 ♂, 1 ♀. *Exp.*, ♂ 52, ♀ 56 millim.

Genus HESPAGARISTA.

Hespagarista, Wlk. i. p. 13 (1854) *echione*.

Proboscis fully developed; palpi oblique, clothed with long hair, the 3rd joint short and extending to beyond frons, which has a truncate conical prominence with raised rim at extremity; antennæ nearly simple and strongly dilated towards extremity; head, thorax, femora, and abdomen clothed with rough hair; tibiæ with the spurs moderate. Fore wing with veins 3 and 5 from close to angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. Frons with the truncate prominence large; abdomen of male with the claspers tufted with very long hair above.

- | | |
|---|------------------|
| A. Thorax orange..... | <i>echione</i> . |
| B. Tegulæ and patagia only orange | <i>caudata</i> . |

170. *Hespagarista echione*.

Agarista echione, Boisd. Voy. Deleg. ii. p. 595 (1847); Angas, Kaffirs

Illustrated, pl. 30. f. 10; Kirby, Cat. Het. p. 21.

Hespagarista echione, var. *funebria*, Roths. Nov. Zool. iii. p. 44 (1896).

Hespagarista interlecta, Wlk. i. p. 14 (1854).

Eusemia novemmaculata, Mab. Ann. Soc. Ent. Fr. (6) x. p. 54; id. Nov.

Lep. i. p. 56, pl. 9. f. 1; Kirby, Cat. Het. pp. 25, 897.

Black; 1st and 2nd joints of palpi with white points at extremity; back of head and thorax above orange; tibiæ with white points; abdomen with lateral and sublateral series of white points. Fore wing with ochreous point at base; subbasal points below costa and above vein 1; a spot in middle of cell and discoidal bar; a large rounded spot below middle of cell; large spots beyond upper and lower angles of cell and a spot above tornus; some silvery-blue scales below the cell near base; an antemedial line, slightly angled on median nervure; an oblique bar across end of cell; a postmedial

slightly sinuous line bent inwards to costa. Hind wing with ochreous patches in and below cell and somewhat wedge-shaped spots beyond the cell between veins 2 and 6; cilia sometimes white at apex.

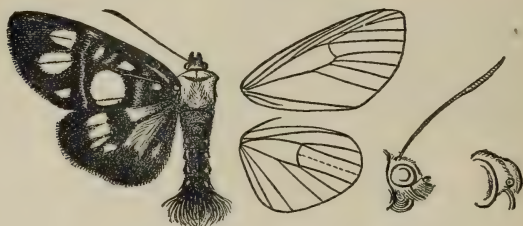


Fig. 276.—*Hespagarista echione*, ♂. 1.

Ab. 1. *funebis*. Palpi, tibiæ, and abdomen without white points; fore wing with all the ochreous markings reduced, there being hardly a trace of the basal spots or the large spot below the cell; hind wing wholly black.

Hab. E. AFRICA, Usambara (*Legros*), 1 ♀; DELAGOA BAY (*Mrs. Monteiro, Kenrick*), 2 ♂, 2 ♀; ZULULAND (*Angas*), 1 ♂; NATAL (*Gueinzus*), 1 ♂ type *interlecta*, Malvern (*Marshall*), 1 ♂. Exp. 54 millim.

*171. *Hespagarista caudata*.

Agarista caudata, Dew. Mitth. Münch. Ent. Ver. iii. p. 30, pl. i. ff. 3, 3 a (1879); Kirby, Cat. Het. p. 21.

♂. Black; tegulæ and patagia orange; palpi and tibiæ with white points; abdomen with lateral and sublateral series of white points. Fore wing with basal and subbasal ochreous points; a sinuous silvery-blue antemedial line, with ochreous strigæ beyond it above and below vein 1; an elliptical spot in cell, with point above it on costa; a quadrate spot below middle of cell conjoined to a spot below vein 1; a silvery-blue spot in end of cell and discoidal ochreous spot; a sinuous silvery-blue postmedial line, with ochreous point on costa, and four elongate ochreous spots beyond it, the spot on median nervules forked outwardly; cilia white at apex. Hind wing with broad ochreous band from below middle of costa to near inner margin above tornus, interrupted by the dark veins.

Hab. W. AFRICA, Guinea. Exp. 46 millim. This species is unknown to me.

SECT. II. Frons with the truncate prominence very small; abdomen of male with the claspers clothed with short hair.

- | | |
|---|-------------------|
| A. Abdomen with the last three segments black | <i>rendalli</i> . |
| B. Abdomen black at extremity only..... | <i>inclusa</i> . |

* 172. *Hespagarista rendalli*.

Metagarista rendalli, Roths. Nov. Zool. iii, p. 97 (1896).

Head and thorax black; tegulæ orange; abdomen with the first two segments black and orange, the next three orange, the terminal segments and ventral surface black, the latter with orange spots.



Fig. 277.—*Hespagarista rendalli*, ♂. 1.

Fore wing black, with oblique somewhat triangular orange ante-medial patch extending from below costa to or to below vein 1; a rounded spot varying in size in end of cell; an oblique somewhat elliptical patch beyond the cell from below costa to vein 2; a silvery-blue spot below base of costa, a bar in middle of cell, a discoidal bar, an oblique streak below vein 2 with a spot below it and two conjoined subapical spots. Hind wing orange, with broad terminal black band, its inner edge angled inwards on vein 2.

Hab. GERMAN E. AFRICA, Tanganyika Plateau, Kambole, 1 ♀, Stevenson Rd. (*Dewar*), 5 ♀, Viraun Mt. (*Crawshay*), 1 ♂; BR. C. AFRICA, Zomba, type *rendalli* in Coll. Rothschild. *Exp.*, ♂ 42, ♀ 50 millim.

*173. *Hespagarista inclusa*. (Plate LIII. fig. 3.)

Pristoceraea inclusa, Karsch, Ent. Nachr. 1895, p. 357, pl. ii. f. 5.

♀. Head and thorax black; tegulæ orange; abdomen orange, with slight segmental lines and the extremity black, the ventral surface black with orange spots. Fore wing black, with large orange subbasal patch from below costa to vein 1, expanding in submedian interspace and extending to just beyond middle, where it extends to just below vein 1; an elliptical spot in end of cell; a large postmedial patch from below costa to below vein 2, rounded at extremities, its inner edge indented at vein 3 and its outer edge strongly excurved to near tornus; a blue spot at base, a bar across cell; a discoidal bar and postmedial spots on veins 2 and 1. Hind wing orange, with terminal rather narrow black band with crenulate inner edge and expanding on apical and tornal areas.

Hab. W. AFRICA, Lr. Guinea; ANGOLA, Kahiriri R. (*Penrice*), in Coll. Rothschild. *Exp.* 50 millim.

Genus **SYFANIA.**

Syffania, Oberth. Ét. Ent. xviii. p. 19 (1893)..... Type,
bieti.

Proboscis fully developed; palpi obliquely upturned, fringed with long hair below; frons with truncate conical prominence with raised rim at extremity; antennæ simple, the shaft dilated before extremity; pectus and ventral surface of abdomen clothed with long hair; tibiæ with the spurs long, hind tibiæ with long hair above and with a few spines between the medial and terminal spurs. Fore wing with veins 3 and 5 from near angle of cell; 9 from 10 anastomosing with 7, 8 to form the areole; 6 from areole or angle of cell; 11 free. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Hind wing with yellow or orange bar at tornus.
 - a. Hind wing yellow, with black discoidal spot, fascia on inner area, and terminal band..... *dubernardi*.
 - b. Hind wing black, with yellowish spots in, below, and beyond cell..... *dejeani*.
- B. Hind wing without yellow bar at tornus.
 - a. Abdomen with yellow segmental lines; hind wing with the spots yellowish..... *giraudeaui*.
 - b. Abdomen without yellow lines; hind wing with the spots white..... *bieti*.

*174. *Syffania dubernardi*.

Syffania dubernardi, Oberth. Ét. Ent. xix. p. 21, pl. viii. f. 70 (1894).

♀. Black; tegulæ and patagia streaked with orange; abdomen with orange dorsal streak on first two segments, the extremity yellow with two black spots; pectus, legs, and ventral surface of abdomen with the hair pale yellow. Fore wing with pale yellow spot in base of cell and streak below it; a spot in end of cell and elongate spot below it; a streak on basal half of vein 1; a post-medial band from below costa to vein 3, and a small spot above tornus. Hind wing yellow, the base and a fascia above inner margin black; a large black discoidal spot; a broad terminal black band enclosing a yellow bar from submedian fold to tornus; underside with black streaks at base in and below cell; a series of white spots in interspaces of terminal area.

Hab. W. CHINA, Tchong-kou, type ♀ in Coll. Oberthür. *Exp.* 40 millim.

175. *Syffania dejeani*.

Syffania dejeani, Oberth. Ét. Ent. xviii. p. 19, pl. v. f. 68 (1893).

♂. Black; palpi banded with yellow; sides of frons yellow; tegulæ, patagia, and thorax striped with yellow; pectus, legs, and ventral surface of abdomen with the hair orange, the last with slight dorsal yellowish streak. Fore wing with leaden streak on basal half of vein 1, a spot in middle of cell, and discoidal bar; orange-yellow spots in middle and in and below end of cell, and a postmedial band from below costa to vein 3; streaks of yellow scales below cell and on inner margin, spots below base of costa, and some

scales round the leaden marks ; the postmedial line double, strongly dentate inwards on vein 2 ; pairs of small orange wedge-shaped subterminal marks on each side of the veins. Hind wing with yellow spots in middle and below end of cell, and a bar just beyond discocellulars ; an orange bar from submedian fold to tornus, the inner margin fringed with orange ; cilia yellow from apex to vein 2 ; underside with broad orange fascia on costa from near base to beyond middle and streak on inner area ; the interspaces of terminal area with yellow patches narrowing from costa to vein 2.

Hab. W. CHINA, Ta-chien-lu (*Pratt*), 2 ♂. *Exp.* 36 millim.

176. *Syfanía giraudeaui*.

Syfanía giraudeaui, Oberth. Ét. Ent. xviii. p. 19, pl. v. f. 74 (1893).

Syfanía oberthuri, Alph. Iris, viii. p. 184 (1895); id. Rom. Mém. ix. p. 126, pl. 9. f. 5.

♀. Black ; palpi banded with yellowish white ; frons pale yellow at sides ; tegulae, patagia, and thorax streaked with pale yellow ; pectus, femora, and ventral surface of abdomen with the hair pale yellow, tibiae with orange hair ; abdomen with pale yellow dorsal segmental lines. Fore wing with leaden streak on basal half of vein 1, a spot in middle of cell, and discoidal bar ; orange spots below base of costa in middle and in and below end of cell ; streaks below the cell and on base of inner area ; a postmedial band from below costa to vein 3 ; some yellow scales round the leaden marks ; a double postmedial line strongly angled inwards on vein 2 ; pairs of small orange wedge-shaped subterminal spots on each side of the veins, and a more prominent spot above tornus. Hind wing with pale yellow spot in middle of cell, a quadrate spot below its extremity, and large patch beyond the cell ; a subterminal spot below vein 2, and series of points between it and apex ; underside with broad orange fascia on costa from base to beyond middle, a terminal yellow band narrowing to a point at vein 1.

Ab. 1. *oberthuri*. Hind wing with the spots in, below, and beyond the cell conjoined.

Hab. N.W. CHINA, Kham Country ; W. CHINA, How-kow, 1 ♀, Wa-ssu-kou, 1 ♀, Ou-se, Yu-tong, Tchang-kou. *Exp.* 40 millim.

177. *Syfanía bieti*.

Agarista bieti, Oberth. Bull. Soc. Ent. Fr. (6) v. p. cccxxviii (1886) ; id. Ét. Ent. xi. p. 20, pl. ii. f. 11 ; Kirby, Cat. Het. p. 35.

Black ; palpi banded with yellow ; sides of frons yellow ; tegulae, patagia, and thorax streaked with yellow ; the hair on legs and ventral surface of abdomen orange. Fore wing with leaden-coloured streak on basal half of vein 1, a spot in middle of cell, and discoidal bar ; orange spots in middle and in and below end of cell, and a postmedial band from below costa to vein 3 ; streaks formed of orange scales below the cell and on inner margin, two spots below

base of costa, patches round the leaden spots, a double minutely waved postmedial line strongly dentate inwards on vein 2; pairs of small orange wedge-shaped subterminal spots on each side of the veins. Hind wing with white spots in middle and below end of



Fig. 278.—*Syfania bieti*, ♂. 1.

cell, and a bar just beyond discocellulars; cilia white at tips; underside with broad orange fascia on costa from near base to beyond middle; the interspaces of terminal area suffused with yellow, narrowing to a point at vein 1.

Hab. W. CHINA, Ta-chien-lu (*Pratt*), 5 ♂, 1 ♀, Che-tou, 1 ♀, How-kou, 3 ♀. *Exp.* 40 millim.

Genus **PSEUDALYPYA.**

Pseudalypya, H. Edw. P. Cal. Acad. v. p. 111 (1874) Type.
crotchii.

Proboscis fully developed; head small, clothed with long hair; palpi short, porrect, clothed with long hair; frons with long triangular corneous process notched at sides; antennæ almost simple, hardly dilated towards extremity; eyes small; thorax hairy; tibiæ smoothly scaled. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from below upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from end of areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

*178. *Pseudalypya crotchii*.

Pseudalypya crotchii, H. Edw. P. Cal. Acad. v. p. 111 (1874); Stretch, Zyg. & Bomb. N. Am. p. 214, pl. 9. f. 2; Kirby, Cat. Het. p. 33.
Pseudalypya crotchii, var. *atrata*, H. Edw. Papilio, iv. p. 121 (1884).

♀. Black with a slight brown tinge; palpi at base, the tegulæ, and anal tuft golden orange. Fore wing with the costa creamy white from base to the narrow postmedial band, which tapers to a point above inner margin; cilia white at apex. Hind wing with the cilia creamy white.

Ab. 1. *atrata*. Fore wing with the postmedial band absent.

Hab. U.S.A., S. California. *Exp.* 26 millim. This species is unknown to me.

Genus **ALYPIA**.

Type.

<i>Alypia</i> , Hübn. Verz. p. 351 (1827)	<i>octomaculata</i> .
<i>Androloma</i> , Grote, Bull. Buff. Soc. i. p. 30 (1873).....	<i>mac-cullochi</i> .

Proboscis fully developed; palpi upturned, the 2nd joint fringed with very long hair in front, the 3rd moderate and clothed with hair; frons with truncate conical prominence with raised rim at extremity; antennæ almost simple, distinctly dilated towards extremity; tibiæ clothed with rough hair on outer side; the mid and hind tibiæ with long hair; abdomen dorsally clothed with rough hair at base. Fore wing with vein 3 from before angle of cell, 5 from above angle, 6 from just below upper angle, 9 from 10 anastomosing with 8 to form the areole, 7 from end of areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. (*Androloma*). Fore wing of male with a dilation of costa and a groove of ribbed membrane below it from base extending to beyond middle.

179. *Alypia mac-cullochi*.

Alypia mac-cullochii, Kirby, Faun. Bor.-Amer. iv. p. 301, pl. 4. f. 5 (1837); Stretch, Zyg. & Bomb. N. Am. p. 211, pl. 8. f. 2; Kirby, Cat. Het. p. 34.

Alypia lorquini, Grote & Rob. Trans. Am. Ent. Soc. i. p. 328, pl. 6. f. 39 (1868); Stretch, Zyg. & Bomb. N. Am. p. 12, pl. 1. f. 4; Kirby, Cat. Het. p. 34.

Alypia similis, Stretch, Zyg. & Bomb. N. Am. p. 14, pl. 1. f. 5 (1872); Kirby, Cat. Het. p. 34.

Alypia edwardsii, Boisd. Rev. Zool. (3) ii. p. 63 (1874).

Alypia similis, var. *conjuncta*, H. Edw. Papilio, iii. p. 34 (1883).

Black; basal half of antennæ ringed with white; a rim behind eyes, slight spots on tegulæ, and stripes on patagia pale yellow; fore and mid tibiæ orange, the former with black spot; tarsi ringed



Fig. 279.—*Alypia mac-cullochi*, ♂. 1.

with white; abdomen with slight yellow dorsal spots at base. Fore wing with triangular yellow patch from near base to beyond middle, and from subcostal nervure to submedian fold intersected by the black median vein; a spot in upper end of cell; a band beyond the cell between veins 8 and 2 intersected by the black veins; a silvery-blue streak below basal half of costa and on vein 1; a V-shaped mark enclosing the spot in end of cell; a curved sub-terminal band. Hind wing with white patch in cell conjoined to a

spot below its extremity; a postmedial band between veins 7 and 2 intersected by the black veins.

Ab. 1. *lorquini*. Fore wing with the postmedial band developed into an elliptical patch.

Ab. 2. *similis*. Hind wing with the markings pale yellow.

Ab. 3. *conjuncta*. Fore wing with the markings partly confluent.

Hab. CANADA, Hudson's Bay, 3 ♂, Rocky Mts., Sierra Nevada, Grote Coll., 1 ♂, California, Rouge R. (*Walsingham*), 4 ♂, 1 ♀. *Exp.*, ♂ 30, ♀ 36 millim.

SECT. II. Fore wing of male with a postmedial dilation of costa and groove of ribbed membrane below it; the wing more elongate.

A. Fore wing with the markings yellow *disparata*.

B. Fore wing with the markings white *brannani*.

180. *Alypia disparata*.

Alypia disparata, H. Edw. Papilio, iv. p. 13 (1884); Druce, Biol. Centr.-

Am., Het. ii. p. 327, pl. 70. f. 2; Kirby, Cat. Het. p. 35.

Alypia gracilentia, Graef, Ent. Am. iii. p. 41 (1887); Kirby, Cat. Het. p. 899.

Black; sides of frons and a rim behind eyes yellowish; tegulae with yellow spots, patagia with yellow stripes; fore and mid tibiae orange. Fore wing with elliptical yellow medial spot from subcostal nervure to submedian fold; an elliptical spot beyond the cell



Fig. 280.—*Alypia disparata*, ♂. 1.

between veins 7 and 3; a silvery-blue streak on base of vein 1, a discoidal bar, and a postmedial bar between submedian fold and vein 1. Hind wing with a purplish gloss; a subbasal white patch between subcostal nervure and vein 1, and a spot beyond the cell between veins 6 and 4.

Hab. U.S.A., Texas; MEXICO, Jalapa (*Hoege*), 1 ♂, Vera Cruz (*Rümeli*, *H. H. Smith*), 3 ♂, 1 ♀, Godman-Salvin Coll. *Exp.*, ♂ 38, ♀ 40 millim.

*181. *Alypia brannani*.

Alypia brannani, Stretch, Zyg. & Bomb. N. Am. p. 8, pl. 1. f. 8 (1872); Kirby, Cat. Het. p. 34.

Black; palpi with some yellow hairs on basal joint; patagia pale yellow; fore and mid tibiae with tufts of orange hair; abdomen

with indistinct whitish dorsal stripe. Fore wing with somewhat elliptical white spot in and below middle of cell, and a similar spot beyond the cell between veins 6 and 3. Hind wing with white spot in and below cell, and a spot beyond the cell between veins 6 and 4.

Hab. U.S.A., S. California. *Exp.* 34 millim. This species is unknown to me.

SECT. III. (*Alypia*). Fore wing of male without dilation of costal area or groove.

- A. Fore and mid tibiæ orange.
 - a. Hind wing with the markings white *octomaculata*.
 - b. Hind wing with the markings yellow.
 - a¹. Hind wing with subbasal yellow spot *dipsaci*.
 - b¹. Hind wing without subbasal yellow spot *langtoni*.
- B. Mid tibiæ only orange.
 - a. Wings with the markings not traversed by black veins . *mariposa*.
 - b. Wings with the markings traversed by black veins *ridingsi*.

182. *Alypia octomaculata*.

Sesia 8-maculata, Fabr. Syst. Ent. p. 830 (1775); Smith & Abb. Lep. Georgia, i. pl. 44; Hübn. Zutr. Ex. Schmett. i. p. 22, ff. 119, 120; Stretch, Zyg. & Bomb. N. Am. p. 6, pl. 1. f. 7; Kirby, Cat. Het. p. 35.
Noctua albomaculata, Stoll, Pap. Exot. iv. pl. 345, C (1782); Kirby, Cat. Het. p. 35.

Zygæna bimaculata, Gmel. Syst. Nat. i. (5) p. 2398 (1791).

Alypia quadriguttalis, Hübn. Verz. p. 351 (1827).

Alypia matula, H. Edw. Papilio, iii. p. 33 (1883).

Alypia wittfeldii, H. Edw. Papilio, iii. p. 34 (1883); Kirby, Cat. Het. p. 35.

♂. Black; palpi yellowish at base and extremity of 2nd joint; frons yellowish at sides; antennæ annulated with white above;



Fig. 281.—*Alypia octomaculata*, ♂. 1.

tegulae with yellow dorsal spot; patagia pale yellow; fore and mid tibiæ orange above; abdomen with whitish point at base, a more or less developed whitish or yellowish dorsal stripe on terminal segments. Fore wing with somewhat quadrate, triangular, or rounded pale yellow medial spot extending from subcostal nervure to submedian fold; an elliptical spot beyond the cell from vein 7 to below 3; silvery-blue streaks from base below costa and above vein 1, a discoidal lunule, an oblique postmedial bar between veins 2 and 1, and another between veins 8 and 6. Hind wing with white patch extending from close to base to middle and from sub-

costal nervure to vein 1, and a spot beyond the cell between veins 7 and 3.

♀. Abdomen without the whitish or yellowish fascia on dorsum; hind wing with the subbasal white spot rounded and not extending to subcostal nervure or to so near base.

Ab. 1. *albomaculata*. Hind wing with the subbasal white spot small and rounded in male as in female.

Ab. 2. *wittfeldi*. Fore wing with the medial yellow spot extending to vein 1.

Hab. U.S.A., Atlantic States, Zeller and Grote Colls., 13 ♂, 3 ♀, Texas, Zeller Coll., 1 ♂, 1 ♀, Florida, Grote Coll., 2 ♂. *Exp.*, ♂ 32, ♀ 40 millim.

Larva. Young: whitish tinged with orange-red on middle of each segment and with numerous irregular transverse brownish lines; the dorsal tubercles, especially on 4th, 5th, 6th, and 11th somites, very prominent, acuminate, brownish black; the head and dorsum of 1st and 12th somites pale red; the 11th somite with irregular white lateral spot; hair colourless; the colours becoming deeper as the larva becomes older.

Full-grown: Head dull orange, with about eight black dots on each side; the semicircular dorsal plate on 1st somite and the anal valves pale orange with black dots; 2nd and 3rd somites with transverse series of black dots, each of the other somites with orange band dotted with black in two alternate rows, and each with a long whitish hair; between each band six slender black lines and the dots connected by interrupted black lines; legs orange at base, black externally and at tips except the anal pair; 10th and 11th somites with large white lateral spot, the other lateral white spots situated just behind the bands on 4th-9th somites, larger anteriorly; the orange bands dorsally interrupted on 7th-9th somites.

Food-plant, *Vitis*; the larva pupates underground, making an earthy hibernaculum with a gummy secretion; full-fed in July.

183. *Alypia dipsaci*.

Alypia dipsaci, Grote & Rob. Trans. Am. Ent. Soc. i. p. 326, pl. 6. f. 27 (1868); Stretch, Zyg. & Bomb. N. Am. p. 9, pl. 1. f. 1; Kirby, Cat. Het. p. 35.

Black; palpi with yellowish mark at sides; sides of frons yellowish; patagia with yellowish stripe; fore and mid tibiae orange. Fore wing with almost medial, rather irregular spot from subcostal nervure to submedian fold; an elliptical patch beyond the cell between veins 8 and 2; silvery-blue streaks from base below costa and above vein 1. Hind wing with antemedial yellow spot from subcostal nervure to submedian fold, and a patch beyond the cell from vein 7 to below 3.

Hab. U.S.A., California, 1 ♂. *Exp.* 32 millim.

184. *Alypia langtoni*.

Alypia langtonii, Coup. Canad. Nat. (2) ii. pp. 64, 460, fig. (1865); Stretch, Zyg. & Bomb. N. Am. pl. 8. f. 3; Kirby, Cat. Het. p. 35.

Alypia sacramenti, Grote & Rob. Trans. Am. Ent. Soc. i. p. 327, pl. 6. f. 38 (1868); Stretch, Zyg. & Bomb. N. Am. p. 10, pl. 1. f. 2; Kirby, Cat. Het. p. 36.

Alypia hudsonica, H. Edw. Papilio, iv. p. 43 (1884); Kirby, Cat. Het. p. 35.

Black; palpi yellowish at base and extremity of 2nd joint, sides of frons and a rim behind the eyes yellow; tegulæ with yellow dorsal point; patagia yellow; fore and mid tibiæ orange. Fore wing with rounded, elliptical, or triangular, almost medial spot from subcostal nervure to submedian fold; an elliptical patch beyond the cell between veins 8 and 3, varying in shape; a silvery-blue spot below costa near base, a streak above vein 1, and a discoidal bar. Hind wing with a spot beyond the cell between veins 7 and 3, varying in size.

Hab. CANADA; U.S.A., Zeller and Grote Colls., 3 ♂, 2 ♀, mountains of New England and New York, Washington Territory, Grote Coll., 1 ♂, 1 ♀, Colorado (*H. Edwards*), 1 ♀. *Exp.*, ♂ 34, ♀ 36 millim.

185. *Alypia mariposa*.

Alypia mariposa, Grote & Rob. Trans. Am. Ent. Soc. i. p. 329, pl. 6. f. 40 (1868); Kirby, Cat. Het. p. 35.

Alypia lunata, Stretch, Zyg. & Bomb. N. Am. p. 15, pl. 1. f. 6 (1872).

♀. Black; tegulæ with yellowish spots; mid tibiæ orange. Fore wing irrorated with a few yellowish scales along vein 1; a subbasal yellowish wedge-shaped spot from just above subcostal nervure to submedian fold, in which it extends to middle of wing; an elliptical spot in end of cell; postmedial spots between veins 8 and 6 and 3 and 2; cilia white at apex. Hind wing with postmedial spots between veins 8 and 6 and 3 and 1; cilia white at apex.

Ab. 1. *lunata*. Fore wing with the postmedial spots conjoined by a highly curved band; hind wing with a spot in end of cell, the postmedial spots developed into a rather broad band between veins 8 and 1, its inner edge excised beyond lower angle of cell, its outer angled in discal fold.

Hab. U.S.A., California, Grote Coll., 1 ♀ (*lunata*). *Exp.* 38 millim.

Egg. Lambert, Can. Ent. xxvi. p. 348; Dyar, Can. Ent. xxvii. p. 31.

Flattened, round, strongly depressed at micropyle; about forty deep vertical grooves with somewhat sinuous edges, some not reaching summit; the area round micropyle not grooved, with numerous small punctures with raised rims.

Larva. 1st stage. Head bilobed, black; body smooth, with a few

bristles; dark at emergence, then becoming pale amber; the 10th somite dilated.

2nd stage. Head black and glossy with some pale marks; the body amber-coloured, with pointed tubercles with pale bristles. The larva loops in walking during first two stages.

3rd stage. Head with white bell-shaped spot and two short bands on each side, and one above mouth; body with dorsal white band with dark bands below it, then a white band, and again a dark stripe.

4th stage. Head bilobed, with the white bands joining on vertex.

5th stage. 1st thoracic somite white, with eight round black dots near the neck and a narrow black band behind becoming yellow above; the white lateral bands of body broader, with black dots in front of the upper series of tubercles; the 3rd somite with buff-coloured spots on the two upper dark bands; the abdominal somites with conjoined triangular ventral markings.

6th stage. Body with irregular ovate, reniform, and heart-shaped markings on and between each segment instead of the dark stripes, also three wedge-shaped markings on a vinous ground-colour, two series on each side of the white dorsal stripe; a black band in suture before 3rd somite, and one above anal claspers, which are amber-coloured, with a black line on outer rims of joints, the abdominal legs similarly marked; the posterior somites thickly marked with buff and white, and instead of a dark band above the legs there are three dots on each segment, some above the legs being single and others conjoined and heart-shaped; the predominating colour becoming white towards maturity.

Food-plant, *Clarkea elegans* &c., the egg being laid on the flower-buds, inside which the young larva feeds.

Pupa reddish brown; the abdomen with seven round raised glossy white spots, the remaining surface finely granulated.

186. *Alypia ridingsi*.

Alypia ridingsi, Grote, Proc. Ent. Soc. Phil. iii. p. 521, pl. 5. f. 1 (1864); Stretch, Zyg. & Bomb. N. Am. p. 11, pl. 1. f. 3 (1872); Kirby, Cat. Het. p. 34.

Black; tegulæ with small yellow spots; mid tibiæ orange. Fore wing with triangular yellow antemedial spot extending from subcostal nervure to submedian fold; a spot in upper end of cell; a curved band beyond the cell between veins 7 and 2, intersected by the black veins; cilia sometimes white at apex. Hind wing with yellow spot in end of cell, and a patch beyond the cell between veins 7 and 2 crossed by the black veins.

Hab. U.S.A., Rocky Mts., California, Sierra Nevada, Grote Coll., 2 ♂, 1 ♀, Rouge R. (*Walsingham*), 4 ♂, 4 ♀. *Exp.*, ♂ 32, ♀ 34 millim.

Genus **ALYPIODES.**

Type.

Alypiodes, Grote, Trans. Kansas Acad. Sci. viii. p. 46 (1883) ... *bimaculata*.

Proboscis fully developed; palpi upturned, the 2nd joint sparsely fringed with rough hair in front, the 3rd short, roughly scaled; frons with long truncate conical prominence with raised rim at extremity; antennæ almost simple, hardly dilated beyond middle; tibiæ smoothly scaled; abdomen smoothly scaled. Fore wing with vein 3 from before angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from the areole; 11 from cell. Hind wing with vein 2 from long before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Tegulæ with yellowish spots.
 a. Fore wing with yellowish spot in base of cell *bimaculata*.
 b. Fore wing without spot in base of cell, the basal area with pale streaks..... *radians*.
 B. Tegulæ without yellowish spots; shoulders with tufts of orange hair..... *valkeri*.

187. *Alypiodes bimaculata*.

Agarista bimaculata, Herr.-Schäff. Ausseureur. Schmett. f. 26 (1850); Kirby, Cat. Het. p. 34.

Eusemia crescens, Wlk. vii. 1774 (1856); Kirby, Cat. Het. p. 34.

Agarista grotei, Boisd. Ann. Soc. Ent. Belge, xii. p. 70 (1869).

Alypia trimaculata, Boisd. Rev. Zool. (3) ii. p. 65 (1874).

Alypioides flavilinguis, Grote, Trans. Kansas Acad. Sci. viii. p. 46 (1883).

Alypiodes bimaculata, var. *dugesii*, Cock, Ent. News Philad. vi. p. 201 (1895).

Black, shot with blue; proboscis yellow; a yellowish rim behind the eyes; tegulæ and extremities of patagia with yellowish spots. Fore wing with yellowish-white spot at base; an antemedial wedge-shaped spot in cell; a quadrate spot in end of cell, and an oblique



Fig. 282.—*Alypiodes bimaculata*, ♂. †.

band beyond the cell between veins 7 and 3 varying considerably in shape; a silvery-blue streak below base of costa and spot above vein 1; a spot in middle of cell and discoidal bar; cilia usually more or less white at apex of both wings.

Ab. 1. *crescens*. Hind wing with yellowish spot beyond the cell between veins 4 and 6.

Ab. 2. *dugesii*. Hind wing also with small yellowish spot below base of vein 2.

Hab. U.S.A., California, New Mexico; MEXICO, 1 ♂ type *crescens*, Oajaca, 1 ♀, Durango (*Becker*), 2 ♂, Jalapa (*Hoege*), 1 ♀, Godman-Salvin Coll. *Exp.* 48 millim.

188. *Alypiodes radians*.

Eusemia radians, Boisd. Rev. Zool. (3) ii. p. 105 (1874); Feld. Reis. Nov pl. 107. f. 9; Druce, Biol. Centr.-Am., Het. ii. p. 327; Kirby, Cat. Het. p. 24.

♂. Blue-black; proboscis fulvous; 1st and 2nd joints of palpi, upper part of frons at sides, and vertex of head with yellowish-white spots; a yellowish rim behind eyes; tegulæ, patagia, and metathorax with yellowish spots. Fore wing with yellowish streaks from base to middle below costa, on median nervure, in submedian fold, and on vein 1; a metallic-blue spot in middle of cell, and a discoidal bar with some diffused yellowish before the former and a quadrate spot between them; an oblique band beyond the cell between veins 7 and 3, emitting streaks on the veins towards termen and with a streak below it on vein 2; cilia yellowish at apex. Hind wing with the cilia yellowish white, the underside with a postmedial series of streaks on veins 6 to 2.

Hab. MEXICO, Morelos (*H. H. Smith*), 1 ♂, Godman-Salvin Coll. *Exp.* 48 millim.

189. *Alypiodes walkeri*.

Pseudalypia walkeri, Druce, A. M. N. H. (6) ii. p. 239 (1888); id. Biol. Centr.-Am., Het. ii. p. 326, pl. 70. f. 1; Kirby, Cat. Het. p. 34.

Pseudalypia stuartii, Schaus, Ent. Am. v. p. 87 (1889); Kirby, Cat. Het. p. 34.

♀. Black, slightly shot with blue; proboscis fulvous; shoulders with tufts of orange hair. Fore wing with slight streaks of metallic-blue scales at base below costa and above vein 1; a spot in end of cell and discoidal line; streaks on veins 3, 2, 1 and in submedian fold from middle to the very oblique yellowish-white band which extends from below costa beyond middle to above tornus, where it is recurved.

Hab. MEXICO, Acapulco (*J. J. Walker*), 6 ♀ type; GUATEMALA, Pacific slope (*Richardson*), 2 ♀, Godman-Salvin Coll. *Exp.* 40-44 millim.

Genus **MASSAGA**.

Massaga, Wlk. ii. 358 (1854) *Type maritona*.

Proboscis fully developed; palpi upturned, the 2nd joint fringed with rough hair, the 3rd short, somewhat porrect, long in female; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple, distinctly dilated toward extremity; tibiæ and abdomen smoothly scaled, the latter in male with protrusible lateral tufts of long yellow hair from base. Fore wing with vein 3 from close to angle of cell; 5 from well above angle, the discocellulars incurved above it; 6 from upper angle; 9 and 10 anastomosing with

8 to form the areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle; male with a fringe of long hair on upperside in cell.

A. Wings with the bands whitish.

a. Wings, especially the hind wing, with the band broad ... *maritona*.

b. Wings with the band narrow *virescens*.

B. Wings with the band metallic greenish *monteirona*.

190. *Massaga maritona*.

Massaga maritona, Butl. P. Z. S. 1868, p. 224, pl. 17. f. 1; Kirby, Cat. Het. p. 33.

♂. Head and tegulæ crimson; 3rd joint of palpi, frontal prominence, and antennæ black; fore coxæ and femora crimson; thorax and abdomen black shot with blue, the extremity of abdomen and base of anal tuft chrome-yellow. Fore wing black shot with brilliant blue, the veins streaked with metallic blue; a moderately



Fig. 283.—*Massaga maritona*, ♂. †.

broad medial yellowish-white band narrowing towards costa which it does not quite reach, its outer edge somewhat diffused. Hind wing black shot with brilliant blue; a broad yellowish-white medial band with somewhat waved edges ending near tornus.

♀. Abdomen with the whole anal tuft yellow; fore wing with the medial band bent inwards from median nervure to costa.

Hab. SIERRA LEONE (*Foxcroft*), 3 ♂ type, (*Austen*) 2 ♂, 1 ♀. *Exp.*, ♂ 50, ♀ 56 millim.

191. *Massaga virescens*.

Massaga hesperia, Wlk. ii. 358 (1854), nec Cram.

Massaga virescens, Butl. Lep. Exot. p. 175, pl. 61. f. 15 (1874); Kirby, Cat. Het. p. 33.

Massaga angustifascia, Roths. Nov. Zool. iii. p. 31 (1896).

♀. Black, shot with bronze-green; head, tegulæ, pectus in front, fore coxæ, and femora crimson. Fore wing with creamy-white band just beyond the cell, bent inwards and narrowing towards costa, which it does not quite reach. Hind wing with creamy-white band just beyond the cell, slightly angled at vein 5 and ending near tornus.

♂. With the lateral anal tufts orange; fore wing with the band less bent inwards towards costa; hind wing with the band rather broader and not angled.

Hab. OLD CALABAR, type ♀ *angustifascia* in Coll. Rothschild, Cape Coast; 1 ♀ without locality. *Exp.*, ♂ 54, ♀ 60 millim.

192. *Massaga monteirona*. (Plate LIV. fig. 6.)

Massaga monteirona, Butl. Cist. Ent. i. p. 216 (1874); Kirby, Cat. Het. p. 33.

Eusemia metallica, Mab. Bull. Soc. Zool. Fr. iii. p. 88 (1878); Kirby, Cat. Het. p. 33.

♂. Black shot with blue; head, tegulæ, pectus in front, fore coxæ, and femora crimson; 3rd joint of palpi, frontal prominence, and antennæ black; abdomen with ventral yellow band on terminal segment and oblique bands on underside of claspers. Fore wing with the veins streaked with metallic blue-green; a diffused obsolescent metallic greenish band just beyond the cell. Hind wing more distinctly shot with blue, and with a postmedial series of short streaks on the veins; underside with the streaks on the veins greenish yellow and extending more towards both base and termen, on inner area becoming a large patch extending to near tornus.

Hab. CONGO; ANGOLA, Ambriz, Cabinda (*Mrs. Monteiro*), 2 ♂ type. *Exp.* 60 millim.

Genus *MASSAGIDIA*, nov.

Type, *M. hesperia*.

Proboscis fully developed; palpi with the 2nd joint obliquely upturned and fringed with hair, the 3rd porrect, short in male, long in female; frons with truncate conical prominence with raised rim at extremity; antennæ nearly simple, distinctly dilated towards extremity; hind tibiæ fringed with hair above; abdomen smoothly scaled. Fore wing with vein 3 from close to angle of cell; 5 from well above angle, the discocellulars incurved above it; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from beyond the areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

193. *Massagidia hesperia*.

Geometra hesperia, Cram. Pap. Exot. i. pl. 56, C (1775); Kirby, Cat. Het. p. 33.

Massaga delicia, Butl. P. Z. S. 1868, p. 224, pl. 17. f. 2, ♂; Kirby, Cat. Het. p. 33.

Massaga demena, Druce, A. M. N. H. (6) xiv. p. 23 (1894), ♀.

♂. Head, tegulæ, fore coxæ, and femora crimson; 3rd joint of palpi, frontal prominence, and antennæ black; abdomen with a segmental band on terminal segment and the anal tuft crimson; wings shot with brilliant blue. Fore wing with the veins streaked with metallic blue; a medial white band not quite reaching costa, its inner edge slightly curved, its outer strongly dilated and angled outwards beyond lower angle of cell; cilia white at apex. Hind

wing with medial white band rounded above and not reaching costa, its outer edge excurved beyond the cell.

♀. The whole extremity of abdomen crimson; fore wing with the medial band bent inwards from vein 4 to costa and not dilated



Fig. 284.—*Massagidia hesperia*, ♂. 1.

and angled beyond lower angle of cell; hind wing with the band broader and extending to tornus.

Hab. SIERRA LEONE (*Morgan*), 2 ♂, 2 ♀, type *delicia*; OLD CALABAR, 1 ♂; CAMEROONS, 1 ♂, type † ♀ *demena* in Coll. Druce. *Exp.*, ♂ 46, ♀ 60 millim.

Genus OPHTHALMIS.

<i>Ophthalmis</i> , Hübn. Verz. p. 166 (1827)	Type. <i>lincea</i> .
<i>Pristoceraea</i> , Karsch, Ent. Nachr. xxi. p. 349 (1895).....	<i>eripis</i> .

Proboscis fully developed; palpi upturned, the 2nd joint roughly scaled in front, the 3rd long, naked, and somewhat porrect; frons with rounded prominence; antennæ almost simple, slightly dilated towards extremity; pectus and tibiae nearly smoothly scaled; abdomen with slight dorsal ridges of hair or smoothly scaled, the claspers of male large, protrusible lateral tufts of long hair from base. Fore wing with veins 3, 4 from angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from well before angle of cell, 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Fore wing with oblique orange band.
 - a. Fore wing with oblique orange antemedial spot *darna*.
 - b. Fore wing without antemedial orange spot *svinhoei*.
- B. Fore wing without orange band.
 - a. Hind wing orange or crimson, with black terminal band *eripis*.
 - b. Hind wing black, with postmedial yellow band *hemorrhoidalis*.
 - c. Hind wing black, with orange terminal band.
 - a¹. Fore wing with the costal area orange..... *proxanthia*.
 - b¹. Fore wing with the costal area dark.
 - a². Fore wing with the cilia orange *cincta*.
 - b². Fore wing with the cilia black *lincea*.
 - d. Hind wing without yellow or orange markings.
 - a¹. Hind wing with postmedial series of pale spots.
 - a². Fore wing with postmedial series of pale spots.
 - a³. Hind wing with the basal area white *basalis*.
 - b³. Hind wing with the basal area black with white spots..... *milete*.

- b^2 . Fore wing with pale spot beyond upper angle
 of cell and two beyond lower angle *funnebris*.
 b^1 . Hind wing black with the cilia white.
 a^2 . Fore wing with white postmedial band *privata*.
 b^2 . Fore wing without white postmedial band *floresiana*.

194. *Ophthalmis darna*. (Plate LIV. fig. 11.)

Agarista darna, Druce, A. M. N. H. (6) xiv. p. 22 (1894).

♂. Black-brown; palpi with the 2nd joint white in front; upper part of frons white at sides; tegulæ and fore coxæ in front orange; anal tuft orange at extremity. Fore wing with short streaks of leaden-silvery scales from base below costa and above vein 1; an oblique wedge-shaped orange spot from below costa before middle to below median nervure; an oblique silvery-blue striga in end of cell and a discoidal line; a broad orange band from just below costa beyond middle to just below vein 2 near termen, angled inwards below costa and its outer edge excurved below vein 5; a slight postmedial orange streak in submedian fold. Hind wing shot with blue.

Hab. TIMOR (*Doherty*), 1 ♂. *Exp.* 44 millim. Type † in Coll. Druce.

195. *Ophthalmis svinhoei*.

Scrobigeria svinhoei, Semp. Reisen Arch. Phil. ii. p. 511, pl. 55. f. 10 (1899).

Black; sides of palpi and frons, and neck with white scales, the frons suffused with metallic blue; tegulæ, thorax, and fore coxæ orange; thorax, legs, and abdomen suffused with metallic blue; genital tufts of male orange. Fore wing with silvery-blue streaks from base to the antemedial very oblique band; a short bar in middle of cell; a broad oblique orange band from just below costa beyond middle to just above tornus where it is rounded, its edges slightly indented at the veins; cilia white at apex. Hind wing with the basal half suffused with metallic blue; cilia white at apex. Under-side with the basal area of both wings suffused with blue.

Hab. PHILIPPINES, E. Mindanão, 1 ♂. *Exp.*, ♂ 52, ♀ 64 millim. Types † ♂ ♀ in Coll. Semper.

196. *Ophthalmis eriopis*.

Agarista eriopis, Herr.-Schäff. Aussereur. Schmett. f. 31 (1853); Kirby, Cat. Het. p. 25.

Rothia eriopis ab. *carminata*, Roths. Nov. Zool. iii. p. 45 (1896).

Head and thorax black-brown; palpi banded with white; sides of frons, gulæ, and spots on vertex of head, tegulæ and patagia white; pectus and legs orange, the latter slightly streaked with black; abdomen orange, with dorsal and lateral series of black spots. Fore wing black-brown, with yellowish-white spots at base below costa and in base of cell, an oblique bar across end of cell, and large spots beyond the cell from vein 11 to above 5 and between

veins 5 and 2; cilia white at apex. Hind wing orange; the base black on upperside; a terminal black band with irregularly waved inner edge, expanding on apical area and extending to middle of costa.

Ab. 1. *carminata*. Hind wing carmine-red, with whitish diffused spot beyond the cell.

Hab. MADAGASCAR, Morondava, 1 ♀. *Exp.* 50 millim. Type † *carminata* in Coll. Rothschild.

*197. *Ophthalmis hæmorrhoidalis*. (Plate LIV. fig. 21.)

Agarista hæmorrhoidalis, Guér. Voy. Coquille, ii. p. 283, pl. 19. f. 1 (1829); Kirby, Cat. Het. p. 22.

♀. Black-brown; palpi with some white scales, the 1st joint orange at base; neck with orange ring; abdomen with the anal tuft orange. Fore wing with streaks of blue scales above subcostal nervure and on vein 1; an oblique bar in middle of cell and a discoidal bar; a pale yellow subterminal patch with black scales on it between veins 3 and 1. Hind wing with broad pale yellow band with diffused edges from vein 6 to above tornus; cilia white-tipped; the underside with metallic blue streak on base of costa and discoidal bar.

Hab. N. IRELAND; NEW BRITAIN in Coll. Rothschild. *Exp.* 60 millim.

*198. *Ophthalmis proxanthia*. (Plate LIV. fig. 5.)

Ophthalmis proxanthia, Roths. ined.

♀. Black; palpi with some orange scales; neck with orange ring; fore coxæ orange; abdomen with the last two segments orange. Fore wing with the costal area and a rather narrow terminal band orange, expanding into a diffused patch on apical area; some silvery-blue scales below basal half of costa and on vein 1; a striga in end of cell and short streak below it; a discoidal bar; some silvery-blue scales on the veins beyond the cell. Hind wing with broad orange terminal band occupying about one third of wing.

Hab. BOURU, Mt. Mada, 3000 ft. (*Dumas*), type † ♀ in Coll. Rothschild. *Exp.* 52 millim.

199. *Ophthalmis cincta*. (Plate LIV. fig. 22.)

Agarista cincta, Boisd. Rev. Zool. (3) ii. p. 80 (1874); Kirby, Cat. Het. p. 31.

Ophthalmis zelleri, Butl. A. M. N. H. (5) xix. p. 215 (1887); Kirby, Cat. Het. p. 31.

♂. Black-brown; tegulæ orange; fore coxæ orange; the last two segments of abdomen orange. Fore wing with slight silvery blue streaks below base of costa and on vein 1; an oblique striga in middle of cell and another below the middle; a discoidal lunule;

the veins beyond the cell streaked with blue; an apical orange patch; the termen and cilia orange. Hind wing with rather broad terminal orange band.

Hab. TERNATE, 2 ♂ type *zelleri*; GILOLO. *Exp.* 52 millim.

200. *Ophthalmis lincea*.

Geometra lincea, Cram. Pap. Exot. iii. pl. 228, B (1779); Kirby, Cat. Het. p. 31.

Lithosia formosa, Montr. Ann. Sci. Phys. Nat. Lyon (2) viii. p. 410 (1856).

Agarista linceoides, Boisd. Rev. Zool. (3) ii. p. 80 (1874).

Black; neck with orange ring or the whole tegulæ orange; fore coxæ orange; abdomen with the last two segments orange. Fore wing with silvery-blue streak below basal half of costa; a streak on vein 1; an oblique striga in middle of cell and a short streak below the middle; a discoidal lunule; a postmedial series of streaks on the veins; an apical orange patch varying much in size. Hind wing slightly shot with blue; a broad deep orange band occupying almost the terminal half of wing.

Hab. AMBOINA (*J. J. Walker*), 2 ♂, 1 ♀; CERAM (*Wallace*), 2 ♂, 1 ♀; S.W. NEW GUINEA, Kapaur (*Doherty*), 1 ♂, 2 ♀; N. IRELAND (*G. Brown*), 1 ♀. *Exp.* 54 millim.

Subsp. 1. *bambucina*, Esch. Kotzebue's Enteckung's Reise, iii. p. 219, pl. 11. f. 30 (1821); Kirby, Cat. Het. p. 31.

Hind wing with the band orange-yellow and much narrower.

Hab. PHILIPPINES, Samboangan (*J. J. Walker*), 2 ♀.

Subsp. 2. *aluensis*, Butl. A. M. N. H. (5) xix. p. 215 (1887); Kirby, Cat. Het. p. 31.

Fore wing with the cilia at apex only orange; hind wing with the band deep orange and narrow.

Hab. SOLOMON Is., Alu (*Woodford*), 2 ♂ type.

Subsp. 3. Fore wing without apical spot; hind wing with the terminal band half the width of wing and orange-red.

Hab. N. GUINEA, Biak I. (*Doherty*), in Coll. Rothschild.

201. *Ophthalmis milete*.

Noctua milete, Cram. Pap. Exot. i. pl. 18, D (1775); Butl. Ill. Het. B. M. i. p. 9, pl. 5. f. 6; Kirby, Cat. Het. p. 24.

Eusemia mutata, Wlk. xxxi. 52 (1864); Swinh. Cat. Het. Mus. Oxon. p. 159; Kirby, Cat. Het. p. 24.

Eusemia conferta, Wlk. xxxi. 53 (1864); Swinh. Cat. Het. Mus. Oxon. p. 159; Kirby, Cat. Het. p. 23.

Eusemia fenestrata, Wlk. xxxi. 54 (1864); Swinh. Cat. Het. Mus. Oxon. p. 159; Kirby, Cat. Het. p. 23.

Agarista rosenbergii, Feld. Reis. Nov. pl. 107. f. 1 (1874).

Eusemia ræberi, Ribbé, Iris, ii. p. 184, pl. 3. f. 3 (1889); Kirby, Cat. Het. p. 24.

Black; palpi streaked with white at sides; frontal tuft white above; tegulæ, throat, and coxæ orange; patagia edged with white above, metathorax with white spot; legs yellowish below; abdomen with yellowish-white segmental bands, the extremity of last seg-

ment and ventral surface orange. Fore wing with the costal edge orange to beyond middle in male; silvery-blue subbasal spots below costa and cell; a streak on basal half of vein 1; an antemedial spot below costa, and a bar from cell to the streak on vein 1; a spot below middle of costa and oblique bar across middle of cell, sometimes bent inwards to origin of vein 2 and continued to vein 1; obliquely placed white spots in and below middle of cell; an oblique bar in end of cell; a postmedial series of elongate spots, those above veins 2, 3, 4 displaced outwards and the one below vein 2 displaced inwards; a more or less developed subterminal series of silvery-blue points; cilia white at apex and tornus. Hind wing with whitish spots in and below middle of cell; a silvery-blue discoidal bar; a curved postmedial series of whitish spots, the spot below vein 2 displaced inwards; a more or less developed subterminal series of silvery-blue spots; cilia mostly white; underside with some silvery blue at base below costa and in cell.

Ab. 1. *conferta*. The silvery-blue markings very largely developed especially on the veins.

Hab. SUMATRA (*De Nicéville*), 2 ♂, (*Sir S. Raffles*) 1 ♀; JAVA (*Horsfield*), 5 ♂, 3 ♀; BALI (*Doherty*), 1 ♀; LOMBOK (*Doherty*), 1 ♂; SUMBAWA (*Doherty*), 1 ♂; CELEBES, 1 ♂. *Exp.* 46–60 millim. Types † ♀ *conferta*, ♂ *fenestrata*, and ♀ *mutata* in Mus. Oxon.

Larva. Moore, Cat. Lep. E. I. C. p. 290, pl. xiii. f. 4.

Dark slate-colour with subdorsal and lateral series of black spots; hair sparse; head and pro-legs orange. Food-plant, *Cissus*.

202. *Ophthalmis funebris*.

Eusemia funebris, Moore, P. Z. S. 1872, p. 569; Waterh. Aid, ii. pl. 127. f. 4; Hmps. Moths Ind. ii. p. 155; Kirby, Cat. Het. p. 24.

♂. Black; palpi and sides of frons with white spots; pectus with the hair orange; tarsi ringed with white; abdomen with white band at base, segmental orange bands, the anal tuft mostly



Fig. 285.—*Ophthalmis funebris*, ♂. †. (From Moths Ind. vol. ii.)

orange, the ventral surface orange with sublateral black patches. Fore wing with greenish points at base, two subbasal and three antemedial points, two above middle of inner margin and two above vein 1 beyond middle; an ochreous point in middle of cell; an

ochreous-white bar across end of cell, a spot beyond upper angle and two beyond lower angle; a subterminal series of greenish points; cilia white before and below apex. Hind wing with broad oblique ochreous-white band from below costa to near base of inner margin; a spot beyond upper end of cell and a series between vein 4 and inner margin; cilia with a series of white points; underside with short fascia below base of costa.

♀. Hind wing with the postmedial spots reduced.

Hab. SIKHIM, 1 ♂ type. *Exp.* 64 millim.

Subsp. 1. *vithoroides*, Leech, Entom. xxiii. p. 110 (1890); Oberth. Ét. Ent. xvi. p. 8, pl. i. f. 4; Kirby, Cat. Het. p. 29.

Fore wing with the white markings larger, the spot in middle of cell triangular; the bluish markings at base, in submedian interspace, and the postmedial and subterminal series more developed. Hind wing with a black discoidal band separating the spot beyond the cell from the white patch in cell.

Hab. W. CHINA, Wa-ssu-kow, 3 ♂, Pu-tsu-fong, 1 ♂, Chang-yang, 1 ♂ type, Washan, 1 ♀, Ta-tsien-lou. *Exp.*, ♂ 72, ♀ 8 millim.

203. *Ophthalmis privata*. (Plate LIV. fig. 2.)

Agarista privata, Wlk. xxxi. 48 (1864); Kirby, Cat. Het. p. 23.

Agarista pagenstecheri, Röber, CB. Ver. Iris. i. p. 40, pl. ii. f. 10 (1886); Kirby, Cat. Het. p. 28.

♂. Black-brown; palpi with the 1st joint and the 2nd in front orange; neck with orange ring; fore and mid legs slightly streaked with orange; anal tuft and claspers orange. Fore wing with obsolescent silvery-blue streak below basal half of costa; a spot in middle of cell with another below it, and a discoidal band; a white spot in upper extremity of cell; a curved band beyond the cell between veins 7 and 2 with waved inner edge; cilia white near tornus. Hind wing with the cilia white.

Hab. CERAM (Wallace), 1 ♂. *Exp.* 56 millim. Type † ♂ in Mus. Oxon.

*204. *Ophthalmis floresiana*. (Plate LIV. fig. 19.)

Crinala floresiana, Roths. Nov. Zool. iv. p. 312 (1897).

♂. Black; palpi with the 2nd joint white in front; frons with lateral white spots above; neck with orange ring; fore coxæ orange; mid tibiae with whitish streak; abdomen shot with blue, the anal tuft orange. Fore wing with incomplete very oblique silvery-blue antemedial line; a bar across end of cell and discoidal bar; a postmedial spot on vein 1; cilia white and also the termen at apex. Hind wing shot with brilliant blue, the cilia white.

Hab. FLORES (Everett), type † ♂ in Coll. Rothschild. *Exp.* 56 millim.

*205. *Ophthalmis basalis*.*Ophthalmis basalis*, Roths. Nov. Zool. iii. p. 50, pl. 14. f. 25 (1896).

♀. Black; palpi with some white at sides; frontal prominence and lateral points above it white; tegulae with orange patches; thorax with some white hair; coxae orange; abdomen with ventral orange bands and the last two segments orange. Fore wing with medial white spot in cell and bar in submedian interspace; quadrate spots in end of cell and below base of vein 2; a curved series of six postmedial spots, the spot above vein 5 further from termen; cilia white at apex; incomplete oblique subbasal and antemedial metallic blue lines, some scales below medial part of costa, a bar in cell beyond middle and spot below it, a discoidal bar, the veins of terminal area streaked with blue. Hind wing with the basal area white to near end of cell and on inner area to well beyond middle; slight black marks at base; a series of six small elongate white spots beyond the cell; some blue on discocellulars and on veins of terminal area; cilia white-tipped except at middle; the underside with the costal area black to base; a small black spot below vein 2 near the base.

Hab. SULA Is., Mangola (*Platen*), type † ♀ in Coll. Rothschild. *Exp.* 70 millim.

Genus **DIAMUNA**.

Type.

<i>Darceta</i> , Herr.-Schäff. Auszereur. Schmett. p. 13 (1850), non deser.	<i>hesperina</i> .
<i>Diamuna</i> , Wlk. xii. 960 (1857)	<i>severa</i> .
<i>Clitis</i> , Wlk. xii. 961 (1857)	<i>proserpina</i> .

Proboscis fully developed; palpi oblique, roughly scaled, the 3rd joint short; frons with truncate conical prominence with raised rim at extremity; antennae nearly simple, slightly dilated towards extremity; tibiae fringed with long hair; abdomen with dorsal crest on basal segment; claspers of male large. Fore wing with the apex somewhat falcate; veins 3 and 5 from near angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the short areole, 7 from or from beyond the areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

SECT. I. Fore wing of male with the costa very strongly lobed and curled over above at middle, and with a depressed elliptical patch of ribbed membrane below it; the apical area very truncate, and the veins very strongly downcurved; hind wing with a fringe of long hair on inner area on upperside.

206. *Diamuna falcata*.

Hecatesia falcata, Druce, Biol. Centr.-Am., Het. i. p. 35, pl. 5. ff. 23, 24 (1883); Kirby, Cat. Het. p. 12.

♂. Deep red-brown; head, thorax, and fore legs with some white hairs; pectus, and mid and hind femora and tibiae orange; abdomen orange, with the dorsal crest at base rufous. Fore wing irrorated with a few blue-white scales forming slight streaks on

some of the veins; a yellow-brown antemedial mark below the costa, and a double very oblique line from cell to inner margin with two elongate spots beyond it; a double postmedial line strongly angled beyond lower angle of cell, then oblique and with a diffused silvery band beyond it; the veins of terminal area slightly streaked



Fig. 286.—*Diamuna falcata*, ♂. †.

with yellow-brown. Hind wing orange, with very broad black-brown terminal band, its inner edge angled at middle.

♀. Fore wing more strongly suffused with blue-white; the antemedial line more oblique; the postmedial less strongly angled, then more erect; hind wing with the cilia white at tips below apex.

Hab. PANAMA, Bugaba (*Champion*), 1 ♂, 1 ♀, type Godman-Salvin Coll. *Exp.*, ♂ 36, ♀ 48 millim.

SECT. II. Fore wing of male with the costa normal; a fringe of long black hair on underside above inner margin, and a fringe of long yellow hair on upperside of hind wing below the basal half of costa.

A. Hind wing with the inner area yellow.

a. Abdomen with the ventral surface yellow..... *primulina* ♀.

b. Abdomen with the ventral surface black *severa* ♀.

B. Hind wing with the inner area black.

a. Hind wing with the black not extending into cell *hesperina* ♀.

b. Hind wing with the black extending into cell *proserpina*.

207. *Diamuna primulina*.

Clitis primulina, Druce, Biol. Centr.-Am., Het. i. p. 335, pl. 30. f. 25 (1889).

♀. Head and thorax yellow-brown; abdomen fuscous; pectus, legs, and ventral surface of abdomen orange, the fore tibiæ fringed with blackish hair. Fore wing yellow-brown; traces of an antemedial line from cell to inner margin; an indistinct fine curved subterminal line; the terminal area greyish brown. Hind wing orange-yellow, with broad black terminal band expanding rather irregularly below vein 2. Underside of fore wing yellow, with black spot in end of cell and another on discocellulars conjoined to a diffused patch below the cell, the terminal area grey-brown.

Hab. MEXICO, Presidio (*Forrer*), 2 ♀ type, Godman-Salvin Coll. *Exp.* 42 millim.

208. *Diamuna severa*.

Phalæna severa, Cram. Pap. Exot. iv. p. 235, pl. 398, L (1782).

♀. Deep red-brown; pectus and mid and hind femora and tibiæ orange; abdomen black. Fore wing slightly irrorated with silvery blue; traces of an antemedial erect line below the cell; the postmedial line rather indistinct, double, defined by bluish on outer side, excurved from costa to vein 3, then incurved. Hind wing deep orange, with black terminal band with curved inner edge. Underside of fore wing with orange postmedial band from costa to below vein 2, attenuate at extremities.

Hab. SURINAM; AMAZONS, R. Jutahi (*Trail*), 1 ♀. *Exp.* 56 millim.

*209. *Diamuna hesperina*.

Darceta hesperina, Herr.-Schäff. Aussereur. Schmett. p. 13, f. 524 (1850).

♀. Head and thorax deep chocolate-brown; antennæ blackish; mid and hind femora and tibiæ fringed with orange hair; abdomen black-brown. Fore wing deep chocolate, irrorated with blue-white scales on basal inner area, on costal area before the postmedial line, and on terminal area; a waved double pale-brown almost medial line, almost obsolete except from cell to inner margin; a large indistinct reniform spot; a double grey-brown postmedial line strongly excurved from costa to vein 3, then incurved. Hind wing orange; a broad black-brown terminal band running inwards on costa to before middle and on inner margin to base on upperside and to before middle on underside; a diffused black patch sometimes present below middle of cell.

Hab. BRAZIL, Sta. Catherina, Coll. Staudinger. *Exp.* 56 millim.

210. *Diamuna proserpina*.

Phalæna-Noctua proserpina, Cram. Pap. Exot. iv. 239, pl. 399, I (1782).

Darceta hesperina, Herr.-Schäff. Aussereur. Schmett. ff. 525, 526 (1850).



Fig. 287.—*Diamuna proserpina*, ♂. 1.

♂. Deep red-brown; pectus and legs with some fulvous hair; abdomen black. Fore wing irrorated with blue-white; an oblique medial olive-brown band from cell to inner margin rounded above; a postmedial olive-brown line on a white-irrorated ground, defined

on each side by chocolate-brown, strongly incurved from below costa to vein 3, then very obliquely incurved. Hind wing black, with elliptical oblique orange patch beyond the cell from below vein 8 to 2. Underside of fore wing with oblique orange post-medial band from below costa to below vein 2, attenuate at extremities.

♀ darker.

Hab. SURINAM; BRAZIL, Sta. Catherina, 1 ♂, 1 ♀. *Exp.*, ♂ 50, ♀ 56 millim.

Genus **SCHALIFRONTIA**, nov.

Type, *S. furcifer*.

Proboscis fully developed; palpi oblique, the 2nd joint fringed with long hair in front, the 3rd small, naked; frons with a three-grooved conical spine ending in a minute fork, the lower part of frons produced into lateral walls; eyes hairy; antennæ almost simple, slightly dilated towards extremity; tibiae smoothly scaled. Fore wing with vein 3 from near angle of cell; 5 from well above angle; 6 from just below upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3 from just before angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

211. *Schalifrontia furcifer*, n. sp.

♀. Black; tegulæ with orange patches; coxæ with some yellow hair; abdomen with narrow lateral and broad ventral yellow stripes not quite reaching extremity. Fore wing with orange-yellow stripe from base to origin of vein 2, extending to submedian fold and into middle of cell; an oblique band beyond the cell from below



Fig. 288.—*Schalifrontia furcifer*, ♀. †.

costa to above vein 2 near termen, rounded at extremities. Hind wing with wedge-shaped orange-yellow fascia widening from base to near termen, where it extends from just below vein 2 to 7, at base confluent with a fascia on inner area extending to near tornus.

Hab. BRAZIL, Sta. Catherina (*Schmidt*), 1 ♀ type. *Exp.* 46 millim.

Genus **PAROTHRIA**, nov.

Type, *P. ecuadorina*.

Proboscis fully developed; palpi upturned, not reaching vertex of head, fringed with long hair in front, the 3rd joint short and clothed with hair; frons with small truncate conical prominence with raised rim at extremity; antennæ

almost simple, distinctly dilated towards extremity; hind tibiae fringed with hair above. Fore wing with vein 3 from close to angle of cell; 5 from well above angle; 6 from just below upper angle; 7, 8, 9, 10 strongly stalked, 10 from beyond 7; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

*212. *Parothria ecuadorina*.

Othria ecuadorina, Westw. Trans. Linn. Soc., Zool. (2) i. p. 202 (1877); Kirby, Cat. Het. p. 32.

♂. Black; some yellow hair at base of fore and mid legs; hind femora fringed with yellow hair. Fore wing with narrow oblique orange band from below costa just beyond the cell to above tornus,



Fig. 289.—*Parothria ecuadorina*, ♂. †.

its lower extremity slightly forked. Hind wing with wedge-shaped orange patch from base extending from subcostal nervure to submedian fold and to well beyond the cell, its outer edge produced to an angle between veins 2 and 3.

Hab. ECUADOR, type † ♂ in Mus. Oxon. *Exp.* 56 millim.

Genus **OTHRIA**.

<i>Othria</i> , Herr.-Schäff. Aussereur. Schmett. p. 13 (1850), non descr. .	Type.
<i>Othria</i> , Westw. Trans. Linn. Soc., Zool. (2) i. p. 201 (1877)	<i>avgias</i> .

Protosceis fully developed; palpi upturned, fringed with hair in front, the 3rd joint short and roughly scaled; frons with truncate prominence with raised rim at extremity; antennae nearly simple and distinctly dilated towards extremity; tibiae fringed with rough hair above; abdomen dorsally clothed with rough hair at base. Fore wing with veins 3, 4 from angle of cell; 5 from well above angle; 6 from just below upper angle; 9 and 10 anastomosing with 8 to form a small areole, 7 from beyond the areole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

213. *Othria avgias*.

Othria avgias, Herr.-Schäff. Aussereur. Schmett. f. 18 (1850); Kirby, Cat. Het. p. 32.
Agarista lethe, Feld. Reis. Nov. pl. 107. f. 7 (1874); Kirby, Cat. Het. p. 32.

? *Orthia nexa*, Boisd. Spéc. Gén. Léop. Het. i. p. 543 (1875); Kirby, Cat. Het. p. 32.

Othria amazonica. Westw. Trans. Linn. Soc., Zool. (2) i. p. 202 (1877); Kirby, Cat. Het. p. 32.

Black-brown; fore coxæ and femora at sides orange; wings slightly shot with blue. Fore wing with oblique orange band from

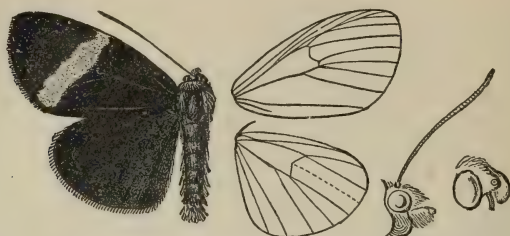


Fig. 290.—*Othria augias*, ♂. ½.

just below costa beyond middle to just above tornus, with somewhat irregular edges and varying somewhat in shape.

Hab. AMAZONS, Pebas, 1 ♀; BOLIVIA, Suapi (*Garlepp*), 1 ♂. *Exp.* 50–56 millim. Type ♀ *amazonica* in Mus. Oxon.

O. nexa, Boisd., may be a variety of this species; fore wing with the band pale yellow, the costa irrorated with grey on underside.

Genus SEIROCASTNIA.

Seirocastnia, Grote, Proc. Ent. Soc. Phil. vi. p. 175 (1866) Type. *tribuna*.

Proboscis fully developed; palpi upturned, fringed in front with long hair, the 3rd joint minute and clothed with rough hair; frons tufted with hair and with small truncate prominence with slight raised rim; tibiae fringed with rough hair. Fore wing with veins 3 and 5 from close to angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole, 7 from or beyond end of areole; 11 from cell. Hind wing with vein 2 from well before angle of cell; 3, 4 from angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

A. Abdomen yellow at sides.

- | | | |
|------------------|---|---------------------|
| a. | Hind wing with the costa yellow at base. | |
| a ¹ . | Hind wing with the inner margin yellow | <i>amalthæa</i> . |
| b ¹ . | Hind wing with the black extending along inner margin nearly to base | <i>panamensis</i> . |
| b. | Hind wing with the costa black to base. | |
| a ² . | Abdomen with narrow dorsal black stripe; hind wing with the costa and inner margin narrowly black | <i>volupta</i> . |
| b ² . | Abdomen with broad dorsal black stripe; hind wing with the costa and inner margin broadly black. | |
| a ³ . | Fore wing with orange fascia in cell on upper-side | <i>tribuna</i> . |

- b². Fore wing without orange fascia in cell on
 upperside.
 a³. Hind wing with the black costal fascia not
 extending to cell *præfecta*.
 b³. Hind wing with the black costal fascia
 extending to cell *meridiana*.
 B. Abdomen wholly black *columbina*.

214. *Seirocastnia amalthea*.

Egocera amalthea, Dalm. Anal. Ent. p. 49 (1823); Kirby, Cat. Het. p. 32.

Josia separata, Wlk. vii. 1645 (1856); Kirby, Cat. Het. p. 32.

Agarista lindigii, Feld. Reis. Nov. pl. 107. f. 6 (1874); Kirby, Cat. Het. p. 32.

Black; tegulae orange in front, pectus and legs with more or less orange hair; abdomen orange, with dorsal black stripe, lateral lines and the extremity black. Fore wing with a medial orange mark which may be reduced to a point on median nervure, an oblique elliptical spot from cell to above vein 1 (*separata*), a small triangular patch in the typical form, or a large triangular patch extending on vein 1 to near base and beyond middle (*lindigii*); an oblique band beyond the cell from vein 6 to below 3, pointed at extremities and varying much in width and outline. Hind wing orange, with broad terminal black band with sinuous inner edge.

Hab. COLOMBIA, Bogotá (*Stevens*), 3 ♂ 1 ♀, type *separata*; ECUADOR, Sarayacu (*Buckley*), 6 ♂. *Exp.* 50 millim.

215. *Seirocastnia panamensis*, n. sp. (Plate LIII. fig. 16.)

Phasis separata, Druce, Biol. Centr.-Am., Het. i. p. 36 (nec Wlk.).

♂. Black; tegulae orange in front; pectus with orange hair; femora fringed with orange; abdomen orange, with dorsal black stripe and slight lateral streaks, the extremity black. Fore wing with oblique postmedial orange band from below costa beyond the cell to below vein 2 near termen. Hind wing orange, with broad black terminal band running inwards on costa and inner margin to points near the base. Underside of fore wing with curved orange fascia from base to middle in and below cell.

♀. Fore wing with triangular orange antemedial patch from middle of cell to submedian fold.

Hab. PANAMA, Chiriqui (*Trötsch*), 1 ♂ type, Bugaba (*Champion*), 1 ♀ Godman-Salvin Coll. *Exp.*, ♂ 50, ♀ 60 millim.

*216. *Seirocastnia volupia*. (Plate LIII. fig. 18.)

Othria volupia, Druce, A. M. N. H. (6) xx. p. 299 (1897).

♂. Black; palpi at base, pectus, and streaks on femora and tibiae yellow; abdomen yellow, with narrow dorsal and lateral black stripes and the extremity black. Fore wing with oblique orange-yellow postmedial band from below costa to below vein 2 near termen where it narrows to a point. Hind wing orange; the costa narrowly black

to base ; the inner area suffused with black and the margin narrowly black ; a rather broad terminal black band expanding widely on tornal area. Underside of fore wing with orange fascia in and below cell.

Hab. STA. LUCIA, Chonana (*T. Wolf*), type† ♂ in Coll. Druce.
Exp. 58 millim.

217. *Seiroidia tribuna*.

Ephialtias tribuna, Hübn. Zutr. Ex. Schmett. iii. p. 24, ff. 491, 492 (1825) ;
Druce, Biol. Centr.-Am., Het. i. p. 36 ; Kirby, Cat. Het. p. 32.

Josia continua, Wlk. vii. p. 1646 (1856).

Eusemia schausii, H. Edw. Ent. Am. iii. p. 90 (1887) ; Kirby, Cat. Het. p. 33.

Black ; palpi orange-yellow at base ; tegulæ orange in front ; pectus orange ; mid and hind femora and tibiæ fringed with orange ; abdomen orange, with dorsal and ventral black stripes, the anal tuft black. Fore wing with orange wedge-shaped streak in cell, varying in width



Fig. 291.—*Seiroidia tribuna*, ♂. $\frac{1}{2}$.

and sometimes not extending to lower angle ; an oblique band from just below costa above angle of cell to vein 2 near termen, varying in width and outline. Hind wing with orange fascia from base to before termen on vein 4, its edges curved and narrowing towards extremities. Underside of fore wing with the fascia from base broader and more curved.

Hab. CUBA ; HAITI (*Tweedie*), 1 ♀ type *continua* ; GUATEMALA (*Champion*), 1 ♂ ; HONDURAS (*Blancaneaux*), 1 ♂ ; NICARAGUA (*Belt*), 1 ♂, Godman-Salvin Coll. *Exp.* 54 millim.

218. *Seiroidia præfecta*. (Plate LIII. fig. 4.)

Phasis præfectus, Druce, A. M. N. H. (6) xviii. p. 28 (1896).

Orthia eluphebolia, Druce, A. M. N. H. (6) xx. p. 299 (1897).

Black-brown ; tegulæ with more or less developed orange band in front, sometimes almost obsolete ; coxæ and femora with some orange hair ; abdomen orange, with black dorsal stripe and lateral lines, ventral segmental lines and the extremity black. Fore wing with obsolescent oblique narrow postmedial orange band from below costa beyond the cell to vein 2 near termen. Hind wing with orange

patch from base to a point on vein 4 near termen; extending at middle from vein 1 just below costa. Underside of fore wing with triangular orange patch from base to middle in and below cell.

Ab. 1 *elaphebolia*. Fore wing with the oblique band not obsolescent.

Ab. 2. Fore wing with orange medial spot on median nervure on upperside, the postmedial band not extending to vein 2. Hind wing with the orange patch not extending above the cell and vein 7, or so far towards termen.

Hab. ECUADOR, type † ♂ *elaphebolia* in Coll. Druce; BOLIVIA, type † in Coll. Druce, Corvico 1 ♂, Songo 2 ♂ (*Garlepp*); PERU, Chanchamayo (*Thamm*), 1 ♂. *Exp.* 50–58 millim.

*219. *Seirocastnia meridiana*. (Plate LIV. fig. 17.)

Phasis meridiana, Schaus, J. N. Y. Ent. Soc. iv. p. 148 (1896).

♂. Black; abdomen yellow, with black dorsal and lateral stripes and the extremity black. Fore wing with narrow rather irregular oblique orange band beyond the cell between veins 7 and 2. Hind wing with pear-shaped orange patch in, below, and beyond cell, rounded at extremity; the underside with a little orange at base of costa.

Hab. BRAZIL, São Paulo, type † ♂ in Coll. Schaus. *Exp.* 56 millim.

220. *Seirocastnia columbina*. (Plate LIV. fig. 4.)

Othria columbina, Westw. Trans. Linn. Soc., Zool. (2) i. p. 202 (1877); Kirby, Cat. Het. p. 32.

Black; palpi with orange spot near base; tegulae with orange band in front. Fore wing with oblique orange band from just below costa at upper angle of cell to just above tornus, varying somewhat in width and outline.

Hab. COLOMBIA, Bogotá, 6 ♂. *Exp.* 58 millim. Type † in Mus. Oxon.

Genus PHASIDIA, nov.

Type, *P. contraria*.

Proboscis fully developed; palpi obliquely upturned, the 3rd joint long, naked and porrect; frons with long truncate conical prominence with a raised rim at extremity; antennae almost simple, strongly dilated towards extremity; tibiae slightly fringed with hair above; abdomen smoothly scaled. Fore wing with veins 3 and 5 from close to angle of cell; 6 from just below upper angle; 9, 10 anastomosing with 8 to form a minute areole, 7 from beyond the areole; 11 from cell. Hind wing with vein 2 from towards angle of cell; 3 from close to angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

221. *Phasidia contraria*.

Phasis contraria, Wlk. xxxi. 136 (1864); Kirby, Cat. Het. p. 33.

Othria meridionalis, Schaus, P. Z. S. 1892, p. 272.

♀. Black-brown. Fore wing with oblique pale yellow band from

just below costa above angle of cell to vein 2 towards termen, where it ends in a point; wings slightly shot with blue.



Fig. 292.—*Phasidia contraria*, ♀. $\frac{1}{2}$.

Hab. BRAZIL, Pebas, Petropolis, type ♀ *meridionalis* in Coll. Schaus; PERU, Sarayacu; 1 ♀ type without locality. *Exp.* 44 millim.

Genus PHASIS.

Phasis, Wlk. ii. 312 (1854) Type. *noctilux*.

Proboscis fully developed; palpi with the 2nd joint oblique and sparsely fringed in front with long hair; the third moderate, porrect, roughly scaled; frons with long truncate conical prominence with small raised rim at extremity; antennæ nearly simple, moderately dilated towards extremity; claspers of male rather large. Fore wing with veins 3 and 5 from close to angle of cell; 6 from upper angle; 9 from 10 anastomosing with 8 to form a short areole, 7 from the areole; 11 free. Hind wing with vein 2 from well before angle of cell; 3 from just before angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

- A. Base of palpi, gulæ, and spots on pectus orange *noctilux*.
 B. Head and pectus without orange *mardava*.

222. *Phasis noctilux*.

Josia noctilux, Wlk. ii. 312 (1854); Kirby, Cat. Het. p. 32.

Agarista batesii, Feld. Reis. Nov. pl. 107. f. 8 (1874).

♂. Black-brown; palpi towards base, a rim behind the eyes, and lateral spots on pectus in front orange; wings slightly shot with blue. Fore wing with pale yellow band from just below costa above



Fig. 293.—*Phasis noctilux*, ♂. $\frac{1}{2}$.

upper angle of cell to submedian fold near termen, its inner edge excised below costa.

Hab. AMAZONS, Tapajos (*Bates*), 1 ♂ type. *Exp.* 48 millim.

*223. *Phasis mardava*. (Plate LIV. fig. 10.)*Phasis mardava*, Druce, A. M. N. H. (6) xx. p. 300 (1897).

♀. Black-brown. Fore wing with slightly irregularly pale yellow band from just below middle of costa to below vein 2 above tornus, incurved below costa.

Hab. AMAZONS, Rio Napo (*Whitely*), type ♀ in Coll. Druce. *Exp.* 48 millim.

Genus **LONGICELLA**.

Longicella, Jord. Nov. Zool. iii. p. 51 (1896) *Type mollis.*

Proboscis fully developed; palpi upturned, the 2nd joint moderately fringed with hair in front, the 3rd long, naked, porrect; frons with rounded prominence; antennæ nearly simple, slightly dilated towards extremity; tibiæ and abdomen nearly smoothly scaled; male with the claspers large, lateral tufts of long hair from 2nd segment. Fore wing with vein 3 from well before angle of cell; 5 from above angle; 6 from upper angle; 9 from 10 anastomosing with 8 to form the areole; 11 from cell. Hind wing with the cell long; vein 3 from well before angle; 5 obsolescent from middle of discocellulars; 6, 7 from upper angle.

A. Wings blue with black markings *mollis.*
 B. Wings black with white spots *luctifera.*

224. *Longicella mollis*.

Eusemia mollis, Wlk. vii. 1774 (1856); Pag. Jahrb. Nass. Ver. xxxviii. p. 8, pl. 2. f. 1 (1885); Kirby, Cat. Het. p. 31.

Head and thorax black; 1st joint of palpi, the 2nd joint in front, a ring round frons, a spot on vertex, and a rim behind eyes yellowish white; tegulæ and patagia edged with yellowish-white hair; pectus with some white hair; coxæ orange; legs striped with orange; abdomen black, the first three or four segments dorsally banded with bluish white, and the last four or five with orange, the

Fig. 294.—*Longicella mollis*, ♂. 1.

ventral surface orange. Fore wing silvery-greenish, or purplish blue irrorated with black; an oblique irregularly waved black line, expanding into patches below the cell and vein 1; a large round black spot in middle of cell with silvery centre, conjoined or nearly conjoined to a similar spot below base of vein 1, often with silvery centre; a large black spot in and beyond end of cell

with silvery discoidal lunule on it; a very irregular subterminal line, oblique from costa to vein 5, below which it is dentate outwards nearly to termen and strongly dentate inwards below vein 2, the area beyond it black with a series of blue spots, elongate towards apex; cilia white at apex and above tornus. Hind wing silvery-greenish or purplish blue irrorated with black; a black spot on subcostal nervure at middle of cell; a large black discoidal spot; the veins beyond the cell streaked with black; a very irregular subterminal line, dentate outwards nearly to termen below vein 5 and strongly inwards below vein 2, the area beyond it black with a series of blue spots just before termen; cilia white at tips.

Hab. PENANG, 2 ♀; MALACCA, 2 ♂, 1 ♀ type; SUMATRA (*De Nicéville*), 3 ♂, 3 ♀; PULO LAUT (*Doherty*), 1 ♂; BORNEO, Sarawak (*Wallace*), 1 ♂, 2 ♀. *Exp.*, ♂ 50, ♀ 62 millim.

Subsp. *decipiens*, Butl. A. M. N. H. (5) xiv. p. 34 (1884); Kirby, Cat. Het. p. 31.

Fore wing with the black at base confluent with the medial spots, the antemedial blue area being reduced to three small obliquely-placed spots; the postmedial line of both wings only slightly dentate outwards below vein 5.

Hab. NIAS, 1 ♂ type.

225. *Longicella luctifera*.

Agarista luctifera, Boisd. Spéc. Gén. Lép. i. pl. 14. f. 4 (1836); Kirby, Cat. Het. p. 23.

Black; palpi white at sides towards base; lower part of frons, vertex of head, and gulæ white; patagia with white patches; coxæ and legs below orange; abdomen dorsally tinged with blue; the genital tufts of male orange. Fore wing with silvery-blue streaks below base of costa and cell and above vein 1; an antemedial white spot below the cell, extending just into the cell, and a quadrate spot in end of cell; an oblique silvery-blue bar in middle of cell, with a spot below it and a discoidal bar; an oblique white band beyond the cell between veins 7 and 4, formed by three or four conjoined spots, a small spot below vein 3, and a large spot nearer the base below vein 2; a silvery-blue mark on inner margin towards tornus; cilia white at apex and tornus. Hind wing with white spot in middle of cell and patch between median nervure and inner margin; a large spot beyond the cell above vein 5 and another below vein 3; cilia white at apex and towards tornus.

Hab. JAVA (*Horsfield*), 4 ♂, 1 ♀. *Exp.*, ♂ 56, ♀ 64 millim.

List of unrecognized Species.

- Agarista dulla*, Pag. Jahrb. Nass. Ver. xxxix. p. 115 (1886);
 Kirby, Cat. Het. p. 28. Ké Is.
- „ *fluitans*, Lucas, P. Linn. Soc. N. S. W. (2) viii. p. 140
 (1893). Australia.
- „ *praslini*, Boisd. Voy. 'Astrolabe,' Lép. p. 179 (1832);
 Kirby, Cat. Het. p. 23. Type lost. New Ireland.
- „ *simplex*, Lucas, P. Linn. Soc. N. S. W. (2) vi. p. 301
 (1891). Australia.
- Andrhippuris caudæquina*, Karsch, Ent. Nachr. xxi. p. 348, pl. 1.
 ff. 1, 2 (1895). W. Africa.
- Misa cosmetica*, Karsch, Ent. Nachr. xxiv. p. 334 (1898).
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- Rothia panganica*, Karsch, Ent. Nachr. xxiv. p. 330 (1898).
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